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Thacker, Spink and Co., Calcutta.

M^r. GRAHAM'S IRISH WOLFHOUND "SCOT."—FRONTISPIECE.



DOGS FOR HOT CLIMATES.

BY

VERO SHAW,

*Author of "The Book of the Dog," Late Kennel Editor
of "The Field,"*

AND

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*Late Captain "The Buffs," Author of "Veterinary Notes for
Horse Owners," etc.*

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1895.

P R E F A C E.

WHEN deciding to publish "Dogs for Hot Climates," the writers felt that they were entering upon a field of labour hitherto untouched by authors of canine literature. The experience of one as a resident for many years in India, and of the other as the writer of *The Illustrated Book of the Dog*, taught them that dwellers in far-off countries are frequently in doubt as to the best variety of dog to meet their requirements. As a consequence, it often occurs that a thoroughly unsuitable animal is imported from home at considerable expense, and on arrival in its new surroundings, the stranger has been known to suffer in health or utility in consequence of its owner being unacquainted with the treatment of the most ordinary canine diseases.

It is, therefore, the object of the writers to attempt to supply the wants of their fellow dog-lovers abroad, by laying before them in as concise a form as is practicable, a few brief hints upon the selection, management and treatment of their pets. Those varieties of dog which are unpopular or useless in India will not be touched upon, the desire of the writers being to avoid encumbering the pages of their book with any superfluous matter.

Such breeds as the Mastiff and the St. Bernard, can by no possible stretch of imagination be considered adaptable for useful purposes in hot climates, nor can several English sporting breeds be of much service in the field owing to the difficult ground and the different conditions under which game is found.

Terriers, on the other hand, are always popular with sportsmen, and it can scarcely be laid at the door of any member of this extensive family that he or she is unworthy of the esteem with which his race is regarded. Many, if not all, the varieties of hounds, are well adapted for providing sport to Englishman residing far from home; whilst the Emperor of Field Dogs—the Spaniel—is an animal whose merits can hardly be over-estimated by a one-dog man who is dependent for his recreation upon a single animal. Collies and Bob-tailed Sheepdogs are breeds which are so useful that they can scarcely be denied a place in the succeeding pages; whilst the attractions possessed by Bull Dogs, Poodles, and a few other fancy varieties are so universally recognised that it is impossible to avoid referring to them, even at the risk of extending the dimensions of this little work beyond the limits which were originally decided upon.

The authors have gladly availed themselves of the kind assistance of Mr. Harold Leeney, M.R.C.V.S., whose articles, which have been written specially for this book, will be found under his name.

The intention of the writers has been, throughout, to provide a handy book of reference for dog lovers, whose fate has placed them in far-off districts, where veterinary assistance is unprocurable, and the chances of arriving at a knowledge of the points of the commonest varieties of dog are practically nil. They, therefore, trust that their endeavours to assist their readers in any difficulties that may be encountered in connection with their kennels may result in success, and that their countrymen abroad may have no cause to regret the odd half-hours spent over a perusal of "Dogs for Hot Climates."

INTRODUCTION.

IN issuing the present little volume, the publishers are influenced by the desire to provide the residents in India and other warm climates with an opportunity for enlightening themselves upon the subject of what varieties of the canine race are the best adapted for the conditions under which they will be placed. Unfortunately, lovers of dogs do not generally possess a knowledge of the constitutions, temperaments, and capacities of the different breeds ; and it is on behalf of these that the following pages have been written.

In entrusting the task of providing the necessary information to Mr. Vero Shaw, the author of "The Book of the Dog," the publishers feel convinced that no better selection could have been made ; for, in addition to the fact that the above work was written by him, they feel confident that his experiences as a judge at every leading show, and as the representative of all the principal journals which include the subject of dogs within their columns, entitle his opinions to the highest respect. The name of Captain Horace Hayes will likewise be familiar to most Europeans resident in India, Australia, and South Africa, as that of a gentleman who, in

addition to his being a qualified veterinary surgeon of position, has spent many years in warm climates, and who therefore has been afforded exceptional opportunities for ministering to the ailments of sick dogs in those parts of the world.

It may also be mentioned that each of the above gentlemen *who may justly claim to be considered an expert*, has endeavoured to confine himself to the question of dogs for or in warm climates only—the one noticing only such varieties as in his judgment are best calculated to thrive and be useful to their owners in remote corners of the world, whilst the other treats mainly on the management and medical treatment of dogs in India and the hotter colonies.

In conclusion, it may be stated that the majority of the illustrations which appear hereafter, representing prize dogs of various breeds, have been specially prepared for this work, by the kind permission of the owners. In other cases the acknowledgments of the publishers are due to Messrs. Cassell & Co., and the proprietors of the *Fox Terrier Chronicle*, for their kind permission to reproduce certain of the portraits which have appeared in their respective publications.

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PART I.

VARIETIES OF DOGS SUITABLE FOR
HOT CLIMATES.



See page 3.

HOUNDS.

CHAPTER I

The Fox-Hound.

THE Hound family so essentially belongs to sportsmen that it need be a subject for very little surprise that specimens of one or other of the leading varieties are to be met with wherever Englishmen reside, and wherever game is to be found. Of the modern Hounds the Fox-hound is perhaps entitled to the most respect, if only on account of his aristocratic associations and connections. It is not very frequently, however, that he is of great service to sportsmen abroad, as the formation of a pack is a serious and expensive transaction, and the opportunities offered for conducting the chase *à l'Anglaise* are few and far between.

No writer upon dogs has ever succeeded yet in rivalling the immortal Mr. Beckford as a describer of the points and characteristics of the Fox-hound. His hints on kennel management, although written eighty years ago, are models of conciseness and of the greatest value to Masters of Hounds, whilst the soundness of his judgment has triumphantly resisted the test of years.

As regards the size of the head of the Fox-hound Mr. Beckford, for the sake of appearances and on that account only, preferred the small one, but he was careful to add that the heavier-headed animals were every bit as useful for sport. The forehead should be rather pronounced, the eyes bright and keen-looking, the muzzle very powerful and truncated, and the ears set on low and carried close to the head. The neck is of fair length, clean, very muscular, gradually broadening to the shoulders, which are long, sloping and free from any lumber or lumpiness whatsoever. The forelegs should be as straight as gun-barrels, very big and muscular and set on well under the body of the Hound, the feet being perfectly round, with prominent knuckles and an extra hard sole. The chest ought to be deep, not too wide so as to interfere with the pace of the animal, whilst the back must be of fair length and exceptionally powerful at the loins. The thighs are muscular and the hocks near the ground, whilst the stern, which is rather coarse and is fringed with hair, is carried upwards. The coat must be close, and very hard and weather-resisting. The best colours are black, tan and white, badger pied, hare pied, and black and white.

The Harrier.

Whatever the ancestry of the Harrier may have been, whether he is descended from the Fox-hound or *vice versa*, or whether he is a result of the crossing of the old Southern

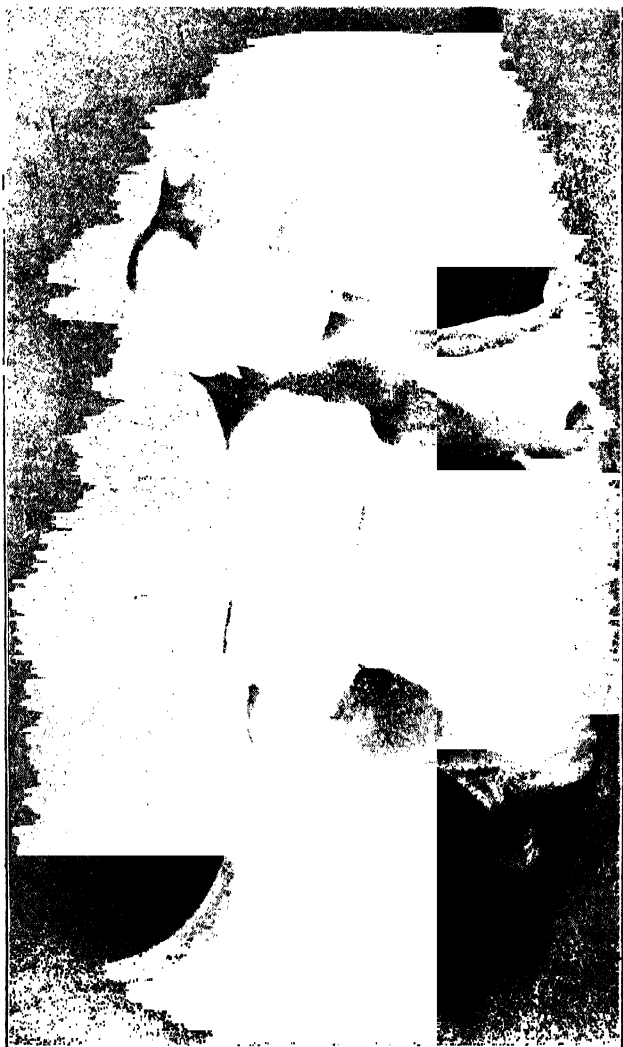


Photo by H. Ernst.

MR. E. B. JOACHIM'S BEAGLE "READER."

Hound with the Greyhound, it is quite impossible to decide. All that is absolutely certain about him is the fact that he exists in the present day, almost as a modified Fox-hound, the external resemblance between the two varieties being very strongly marked. Perhaps the head of the Harrier is a little heavier than that of the Fox-hound in proportion to the size of the two animals, and the recognition of blue mottle as a correct colour for the former is perhaps another slight cause of distinction between them. In other respects the description of the one applies with equal force to the other, but it must be borne in mind that about 22 inches is quite high enough for a Harrier. No doubt the latter variety has been spoiled by the desire on the part of breeders to acquire an increase of pace to the detriment of the animal's hunting capacities, but in certain packs the old lines have been pretty closely followed, and from these reliable Harriers for working in the East may be readily secured.

The Beagle.

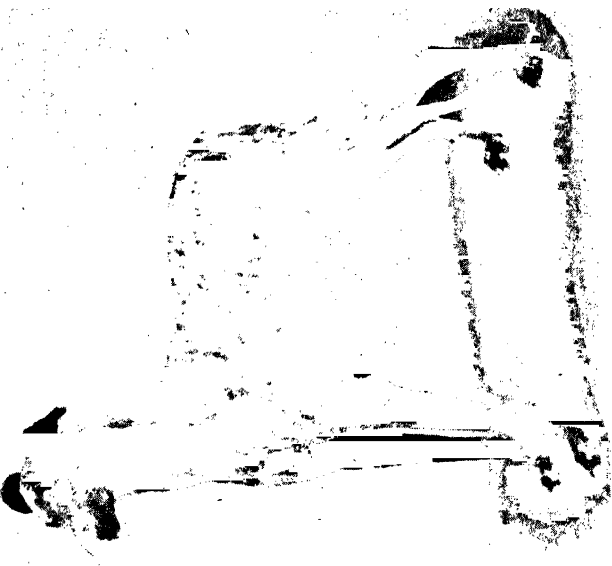
This most charming variety of Hound is, perhaps, more adapted for providing sport at outlying stations than any other breed, as the acquisition of a pack, or even a few couples of Beagles, affords ample facilities for a hunt on foot to all those who enjoy such a recreation and, consequently, the Beagle is always popular. The head of the Beagle is moderately long, rather fine, but of fair width at the back of the skull, muzzle inclined to be long, blunt at the muzzle,

with heavy flews, and large nostrils. Eyes of moderate size, dark in colour and soft looking, not sunken. Ears long and pendulous, set on low, thin in texture, and not too pointed at the tips. Neck muscular, but clean, a little arched, and set on to sloping shoulders. The chest should be deep and the body, with a strong, well ribbed up back and powerful loins. Fore legs dead straight, set on under the body, big in bone and muscular. Feet rather large and quite round. Hind legs very muscular at the thighs, with well bent stifles. *Stern* set on rather high, moderately coarse, and carried gaily and curved. Height not to exceed fifteen inches.

The Greyhound.

The antiquity of the Greyhound is unquestionable, as, so far back in the history of the world as the days of Arrian, a race of dogs very similar to the modern Greyhounds were used for coursing hares under conditions which correspond closely with those at present in vogue. The chief peculiarity in the style of a Greyhound's running is that he hunts by sight and not by scent, and it may be added that, when he once commences to run cunning and ceases to do his best to keep in the direct line of his hare, he is perfectly useless from a coursing point of view.

Where it can be indulged in there is no prettier or more exciting a form of sport than coursing, and there are but few quarters of the world where the "King of Sports" as it has



been styled, cannot be followed out, if even in a modified degree. There is a great deal of pleasure, moreover, contained in the society of a Greyhound, which is by nature a companionable dog, even though his merits as a guard to the house are scarcely worthy of notice.

So far back as the fourteenth century that famous sports-woman Dame Juliana Berners, the Abbess of Sopewell, gave to the world a description of the Greyhound that has remained until the present day, and which may be quoted *in extenso* for the edification of those who have not yet seen it. She says :

“A Grehoun shold be heeded lyke a snake,
 And neckyd lyke a drake,
 Footed lyke a catte,
 Tayllyd lyke a ratte,
 Syded lyke a teme,
 And chynyd lyke a beme.
 The fyrst yere he must lerne to fed
 The second yere to felde him lede
 The thyrde yere he is felowe lyke
 The fourth yere there is none syke
 The fyfth yere he is good enough
 The syxte yere he shall hold the plough,
 The seventh yere he wol awaylle
 Grete bitches to assaylle.”

All the above being interpreted into the language of the nineteenth century would form a very fair description of the modern Greyhound, the chief points of which should be as follows :—

The head long, flat, and lean, of good width, and gradually

tapering towards the snout. The jaws must be very powerful, the eyes dark and bright, whilst the ears should be small and fine. The neck long and muscular, with no coarseness about it, and the shoulders long, very sloping, and loosely hung. The chest must be of great depth, and the fore-legs absolutely straight, with powerful pasterns, the feet being of good size, round in shape, and provided with thick soles.

The back should be square and "beam-like," the loins powerful and slightly arched, the tail long and slightly curved, whilst the hind legs are much bent at the hocks, and extremely powerful and muscular. Any colour is permissible in a Greyhound, and the best running weights may be taken to be about 60 lbs. for a dog, and 50 lbs. for a bitch.

The Deerhound.

This very picturesque-looking dog is a native of Scotland, where he is still used to tackle wounded stags, but his admirers in southern districts are so many that his appearance is familiar to every visitor to a dog show. The skull of the Deerhound is long and narrow, gradually tapering towards the muzzle, which, however, should be strong and powerful, and adorned with a big nose and large teeth. The ears are set on rather high, and are carried in a fold, the hair on them is soft and short, the eyes dark and intelligent-looking, and the expression of countenance winsome and captivating. The neck is long and yet powerful, the shoulders sloping,



Photo by Arthur Weston London.

MR. E. WESTON BELL'S DEERHOUND "ROSSIE RALPH."

the chest very deep, and the body long, perhaps a trifle tucked up, but yet powerful at the loins, which are also slightly arched. The fore-legs should be dead straight, very heavy in bone with good-sized compact feet, and of fair length; whilst the hind ones are much bent at the stifles, a considerable length being required from the stifle to the hock. The stern is low set, and carried downwards in a graceful curve, whilst the coat, except on the ears, should be extremely harsh and weather-resisting. Any colour is permissible in a Deerhound, black or blue, brindles, and fawns being the most commonly met with, and even white dogs of undoubted purity of blood are occasionally found, such dogs being exceptionally valuable for deer-stalking when the snow is on the ground. Thirty-two inches is a good height for an animal of this variety, but it must be remembered that a Deerhound should appear to be above all things a combination of strength and activity, a bad temper being a very decided objection in a specimen of the breed. The Deerhound is a very companionable, intelligent, and good-constituted dog, and in these respects is well worthy of the attention of all who are on the look-out for an able-bodied four-footed friend. Occasionally, however, a dog of this variety imbibes a most undesirable propensity for killing his own mutton, and then a severance between him and his master becomes inevitable, as sheep-worrying once it becomes a part of a dog's nature is very difficult to cure, and a Deerhound thus affected seems to be affected by the mania more strongly than most breeds.

The Irish Wolfhound.

(See *Frontispiece.*)

The Irish Wolfhound, whatever he may have been in the zenith of his fame, is now little more than a coarse deerhound, made up of a generous dash of the latter blood jumbled up with Great Dane to give the new production size. There may possibly be a few dogs about which possess the old blood, though it is very questionable whether any animals exist with any real claim to the same; but even if they do, the breed cannot be considered an attractive one or of the slightest utility, as a deerhound can do all that a so-called Irish Wolfhound can do as well as if not better than the latter. They may be judged upon deerhound lines, additional importance being attached to stature, weight, heaviness of bone, and, one may almost add, coarseness.

The Basset Hound.

The Basset Hound, which is a French production and a most useful animal when a slow-hunting hound is desired, is topped very like a narrow-headed fox-hound and should be judged as such so far as his anatomy, with the exception of his legs, is concerned. The legs are very short, quite disproportionately so, and should be crooked at the knees and well out at the shoulder. Some specimens are less crooked and others quite straight, but the very much crooked are to be preferred, as the formation renders it a com-



paratively easy matter for men on foot to keep up with the hounds in the quest of wounded animals. The scent of the Basset Hound is very keen, and three or four couples are capable of providing first-rate sport if set to run on drag, as they can be followed on foot if necessary. The favourite colour is tricolour, but occasionally excellent specimens are met with which do not possess any dark shadings, but are only tan and white. Mr. George R. Krehl at one time possessed a very strong kennel of this breed, and owing to the persistency with which he advocated its merits, many enthusiasts in dog flesh were influenced into taking it up, and consequently the collections seen at dog shows are far stronger than they would otherwise have been. The Basset Hound is a most companionable dog and a very faithful and picturesque attendant upon ladies, amongst whom the variety includes many of its warmest admirers. Few varieties, therefore, are more adapted for being kept about a country house, as upon emergency they will provide a good day's sport for the men, whilst at all times they are favourites with the ladies and children of the establishment.

The Otter Hound.

This variety of hound is seldom met with outside of the district in which packs are kept, as they are adapted only for hunting the otter. In Cumberland, Westmoreland, and

Devonshire the sport of otter hunting is carried on pretty regularly, but it is not every river that contains otters in sufficient numbers to warrant the inhabitants of the neighbourhood forming a pack, and not all waters are suitable for the sport. To sportsmen abroad, however, the Otter Hound may be a very useful dog, and the institution of a pack composed of four or five couples may therefore be a good investment by Englishmen who may be residing in districts where there is water containing vermin of sufficient size to warrant their being hunted by large hounds. Regarding the points of the Otter Hound it may be stated that the head is large, and rather round at the top, with their ears hanging flat to the sides of the skull, dark liquid-looking eyes, and a big dark nose. The shoulders slope nicely, the chest is wide, and the body very powerful and particularly strong and muscular about the loins. The fore legs should be dead straight, big in bone and not out at shoulder, but set on well under the dog, with very large feet, so that the animal may swim easily. The hind legs are of a good length from stifle to hock and are fairly straight, the stern being rather long and carried gaily. The coat must be very harsh and weather-resisting, the best colour being a dark grizzle.

In hunting a pack of Otter Hounds it is necessary to have two or three terriers to assist in bolting the quarry if he takes refuge amongst the rocks or in a hole on the banks of the water. For this purpose the Dandie Dinmont Terrier is as good and suitable a breed as any.

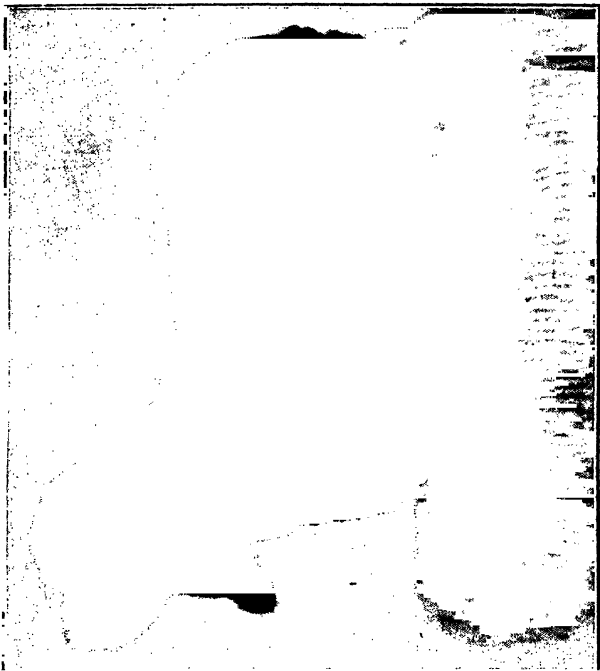


Photo by Arthur Weston, London.

The Spaniel.

The Spaniel, taken all round, is, perhaps, the most useful dog for sporting purposes in the East. He can hunt, retrieve, and do his work on land and water, though, of course, he is "not there" when an exhibition of great pluck is required. In fact, he is not a vermin dog, but a shooting one, and the infinite variety of breeds and colours he presents should render the selection of a suitable dog a matter of very little difficulty.

The Clumber Spaniel, who hunts mute, is a marvellously pretty dog of a golden lemon and white colour, and is the heaviest and largest member of the family. He is rarely met with now, the best specimens being to be found in the kennels of the Dukes of Portland and Newcastle, who rarely exhibit at shows. Another good old variety of Springer, as the larger-sized Spaniels used to be termed, which has well-nigh disappeared, is the Sussex, whose chief characteristic was his glorious golden liver coat and very typical head. This breed has, however, been so mixed up with the heavy-headed Black Spaniel of late, that the so-called "Sussex" are in reality nothing of the sort, being mostly full of black blood and quite capable of begetting offspring of that colour themselves. Perhaps, for all-round sporting purposes the old-fashioned Norfolk Spaniel, a liver and white, or black and white dog, will be found the best; as, fortunately for his reputation as a sportsman's dog, he has not been popular with showmen, and

his sporting instincts have not been lost sight of by his breeders. The roans and livers, the tri-colours and the black and tans that used to be so often seen, are now extremely rare; whilst amongst the "Cocker"—or small-sized Spaniel classes—the blacks are in the proportion of about six to one.

TERRIERS.

CHAPTER II.

UNQUESTIONABLY the most popular of all dogs is the Terrier, be his particular family what it may. He is invaluable to the sportsman, and a companion to all. He is hardy and vivacious, of a genial disposition, and above all a true friend and devoted servant to his master. Moreover, the race of Terriers is so varied in its composition that it presents the widest opportunity to the dog-lover in doubt for exercising his powers of selection, and gratifying any particular whim to the uttermost extent.

There are large Terriers and small ones, rough and smooth; animals possessed of unbounded dash and warmth of temper, and those blessed to a far greater extent by the virtue of patience. At the same time the tyro should bear in mind that in selecting his Terrier, he should endeavour to accommodate his views to the purposes to which he intends to put his dog. If really hard work, amongst foxes and the like, is required of the animal a strong dash of Bulldog blood is to be recommended; on the other hand if the dog is expected to go on for days pottering about among rocks or flinty

ground, it is far better to decide upon selecting one of the Scottish breeds, as the soles of their feet are admirably equipped by nature for negotiating such difficult surfaces.

The Bull Terrier,

which is given the place of honour in the present work, not because he is the most generally popular of his family, but because, taken dog for dog and pound for pound, a Bull Terrier will usually be found to do all that another Terrier will, and then be able to kill the aforesaid Terrier if required, is perhaps the least known, and certainly the most maligned of any breed of dogs. He is a splendid companion, a model of symmetry, above all things dead game, and, if properly brought up, in ninety-nine cases out of a hundred will be found to be under complete control. The weight varies in this breed from 50 lbs. or over, down to 15 lbs. or even less. But the best weight for a show dog is about 45 lbs. for a heavy weight, and 16 lbs. for a little one. The colour for exhibition purposes must be pure white, but this is simply one of the dictates of the fashion that rules the show world, and for all utility purposes the dog is good whatever his colour may be.

The breed was originally produced—for fighting purposes—by crossing the Bulldog with the White English Terrier, and thereby the pluck and staying power of the one variety was retained ; whilst the long jaws, level mouth and activity of

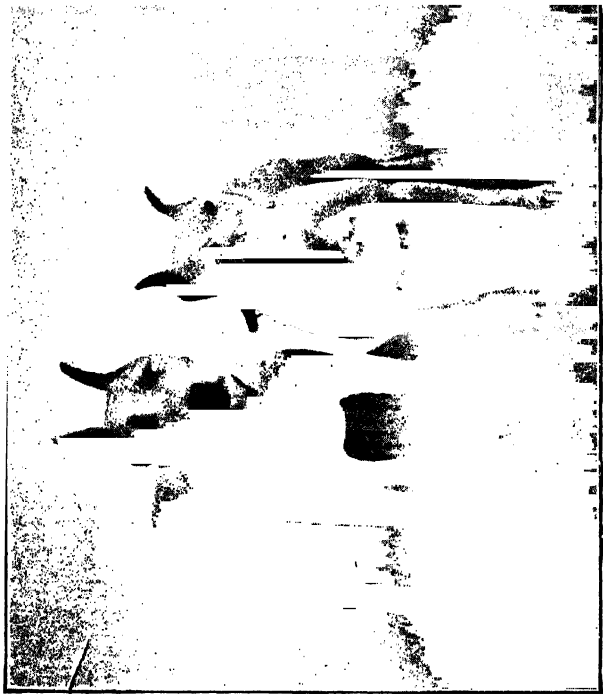


Photo by Arthur Weston, London.

MR. W. J. PEGG'S BULL TERRIERS
"WHITE WONDER" AND "SHEERBORNE QUEEN."

the lesser breed was introduced into the production. Unquestionably the efforts of modern breeders of this variety have been directed towards the acquisition of as much of the Terrier character as possible. The skull should be long and flat, wide between the ears, and show a slight groove or ridge running up from between the eyes. The latter should be *small*, as dark as possible in colour, set close together, and, if obliquely placed, why all the better. A round-shaped, light-coloured eye, which shows the white, is to be avoided if possible—in fact all authorities agree upon this point. The jaws should be long and very powerful, tapering gradually towards the muzzle, which should not be fine ; but on the contrary rather blunt. The skin of the lips should be tight, and the teeth perfectly level and the nose perfectly black. The great faults in the head of a show dog are the projecting cheek bumps of the Bulldog, a drop in front of the eyes, heavy lips, and irregular teeth, all of which are points to be avoided in a Terrier. The subject of ears is one that is open for discussion, as it is the custom in this country to crop Bull Terriers, but for work underground the practice is decidedly objectionable.

The neck should be long and devoid of all loose skin or dewlap, the shoulders slanting, and the chest both wide and deep. The back rather short, but straight, the loins powerful and the tail fine and carried straight out, a curl being a bad fault. The loins should be strong, the forelegs very straight and of good substance, with the feet compact and as round

as possible. The hind legs are well let down at the hocks, which should be fairly well bent, and in general appearance the Bull Terrier should convey the impression of being such a combination of strength and activity as is rarely seen in any other breed.

They are first-rate water-dogs as a rule, and, if properly entered, will tackle any living thing above or below ground, their *forte* being slashing and cutting their opponents about, as they do not hang on as does the Bulldog,

The Black and Tan Terrier,

or Manchester Terrier, as he is not infrequently styled, is, like the Bull Terrier, to be found of many weights. Under no circumstances, however, should a dog of this breed scale more than 24 or 25 lbs. ; for if they do, the presence of a Bull cross is to be suspected. In their structural development Black and Tan Terriers very much resemble the Bull Terrier, but they are finer and more delicately built. Their skulls are narrower, their muzzles less punishing, nor are their feet so round. Of course, they possess a far less share of bone, while their coats are, comparatively speaking, silky and not so weather-resisting as that of the other dog. It is his colour that is the great characteristic of the Black and Tan Terrier, who should be a rich raven black all over except in the following parts of his body. The feet and ankles must be of a brilliant mahogany-

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LT.-COL. C. S. DEAN'S

BLACK AND TAN TERRIER "BENHAM DAISY."

coloured tan, except for the black pencillings which run up each toe, and the peculiar black smudge or "thumb-mark" which appears on the front of the leg above the ankles. The chest should be tanned, as should be the lower jaw and the upper jaw by the nose, and there should be spots above the eyes and on each cheek of the same shade. The vent just under the tail should also show tan, but the mark should not be larger than the tail can cover when put down. A very common—in fact, to a certain extent, almost invariable fault in dogs of this breed is the appearance of tan behind the ears and at the back of the thighs, and when dogs are marked in the latter portion of their anatomy they are said to be "breeched,"

As a sportsman's companion, the Black and Tan is only moderate, for the breed is disposed to be soft, and prefers to snap rather than face an enemy with the intention of paying and receiving.

The White English Terrier

is—or should be—simply a pure white replica of the Black and Tan, and is a most beautiful dog. As a rule, the specimens of this breed met with are more delicately framed than the Black and Tan, but this should not be so, and is very probably due to the introduction of Italian greyhound blood, the presence of which can often be detected by the peculiar mincing style of their walk, which is so characteristic of the greyhound.

The Fox Terrier.

There can be no doubt that the Fox Terrier is, and has been for years, the most popular dog in existence, but at the same time it is only fair to the Bull Terrier to state that many of the gamest specimens of the public idol owe a great deal of their excellence to their connection with him. At the commencement of the present century the Fox Terrier was produced by crossing the Beagle with the smooth-coated English Terrier, neither of which animals be it noted is remarkable for its pluck ; but rather the reverse. There is little room for doubting therefore that Bull blood was introduced with the object of increasing the courage of the Fox Terrier, and in fact hundreds and thousands of the so-called Fox Terriers of the present day are little else than a medley of Bull Beagle, and English Terrier. The thick heads, the cheek bumps, and the heavy lips of the Bulldog are clearly to be traced in many of them, and if their ears were to be cropped and their tails left on, the similarity to the Bull Terrier would be still more obvious.

There can be no doubt, however, that the subject of this chapter is a thoroughly companionable dog, and fit for most kinds of sport, provided always that he comes of a good strain and has been properly entered when a youngster. He is not so hot and impetuous as the Bull Terrier, though far in advance of the ordinary English and smooth-coated varieties as a vermin dog, added to which the fact that he is permitted



MR. FRANCIS REDMOND'S FOX TERRIER "D'ORSAY."

to own colour and markings increases his popularity amongst artistically-disposed doggy men.

In purchasing an animal of this variety, the greatest pains should be taken to insure that the dog comes from a working strain, as many, if not most, of the show specimens are not only soft themselves, but are bred the same way. A few owners, however, such as Mr. F. Redmond, are hunting-men, and of course would scorn to have a faint-hearted dog in their kennels. The would-be purchaser therefore will do well to try and procure a Fox Terrier which is bred from parents that have belonged to a Hunt and been regularly worked, for if he does not invariably find good looks in his purchase, he acquires a useful dog, and to the sportsman "handsome is as handsome does."

Many persons, however, possess neither the desire nor the opportunity for working their pets, and so very naturally go in for something that is likely to conform with the ideas of dog-show authorities. But even here they are beset by another difficulty, this being the ever-constant change in type, which is entirely due to the caprice of fashion. A dog that was in the first flight a few years ago would be nowhere now, whilst the present champion is equally certain to be voted old-fashioned if he lives a little longer. All that can be attempted therefore in the way of a description of this or any other breed, is a modification of the old points and the new, which if extremes are avoided will give a fair and honest idea of what the Fox Terrier should be like.

The head, which, as in the case of almost all varieties of dog is the most important point, is flat and inclined to be narrow, wide between the ears but tapering to the eyes, which are rather small, dark, deep set, and full of fire and intelligence. There is an almost imperceptible falling-away below the eyes, and the jaws should be long, clean cut and powerful, the teeth level. There should be no approach to lippiness, and cheek bumps are bad faults in this breed, whilst of course the nose must be perfectly black. The ears should be small, of fine texture, V-shaped, and carried close to the cheek with the tips forward.

The neck should taper from the shoulders towards the head, and must be of a fair length, free from throatiness but very muscular. The shoulders are long and sloping, the chest narrow and deep. The back should be short, and the middle piece compact, the ribs being well sprung and the loins deep. There should be a good deal of muscle about the thighs, which causes the dog to be strongly built behind and appear to be wider than he really is, whilst the stifles are slightly bent, the hocks being straight and well let down. The forelegs must be very straight and quite free from any disposition to turn out at the shoulder ; whilst the feet are compact and cat-like, with short toes and very hard soles. These must be placed well under the dog, the slightest inclination to be out of the straight line of the leg being a serious fault. The tail which is rather coarse, and invariably docked, is set on high, and is carried just a trifle up.

As regards colour, most breeders object to the presence of



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MR. CORNFORTH'S
DANDIE DINMONT TERRIER "TRICK."



Photo by A. Weston, London.

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CAPTAIN WETHERALL'S
HARD-HAIRED SCOTS TERRIER "STAFFA."



brindle or fallow markings, which are accepted as strong presumptive evidence of the Bulldog cross, but in the case of a sportsman who requires a hard bitten dog to take abroad, there is little to be said against these shades. A very important point, however, in the Fox Terrier is his coat, which must be harsh in texture and abundant, although lying close, whilst the best weight is about 18 lbs. Of course very tall, weedy dogs, or else exceptionally short, cloddy ones are to be avoided, as being incapable of discharging the duties they may be called upon to fulfil. The late Rev. John Russell gave it as his opinion that a Fox Terrier should not be over 20 lbs., nor under 15 lbs., and with this assertion very few will be found to disagree.

The wire-haired Fox Terrier in every respect resembles his smooth-coated relation, except so far as regards his jacket, which must be rough or broken. It is, however, a distinct fault if the coat is too long and shaggy ; on the other hand it ought to be as wiry as possible, any approach to silkiness being an absolute disqualification, as indeed it ought to be.

The Dandie Dinmont Terrier.

Doubtless the Dandie Dinmont Terrier owes a very large share of his popularity to Sir Walter Scott, whose charming references to the Lidderdale farmer and his faithful tykes most unquestionably have instilled a desire in certain romantic breasts to possess a dog of similar breed. There is no

denying the fact, however, that whatever the original dogs were like, the modern Dandie, in spite of the action of ill-advised friends, is a genuine, good little dog, and quite in the first rank, both as a companion and terrier. Perhaps he is a little too pugnacious to suit a timid owner, but for the sportsman, provided a fast-running dog is not required, a good Dandie is just the thing.

Nor is there any doubt as regards the antiquity, and consequent respectability, of the breed; but he would be a bold person who would undertake to satisfy every Dandie man as regards the precise origin thereof. Suffice it to say therefore that the modern Dandie partakes a good deal of the character and disposition of his ancestors, that his pluck is unquestionable, sagacity quite up to the average, and constitution hardy, all of which good points unite in proclaiming him to be a thoroughly good dog, and unexceptional guard for house and home.

The skull of a Dandie Dinmont Terrier is full large for the size of his body, but the impression that it is so is no doubt increased by his long back and short legs. It should as in most though not all Terriers, be pretty wide between the ears and grow narrower towards the eyes. The forehead is well marked and the top of the skull must be conical, a flat-headed Dandie being an abomination. The muzzle is long, powerful, and taper towards the nose, which should be quite black. The jaws and teeth are both extremely powerful, and the latter perfectly level. The eyes must be rather full, set wide apart, of a dark colour—except in the case of yellow or

“mustard” coloured specimens—and convey an intelligent and affectionate look to the observer. The ears must be set in rather low, thereby increasing the domed appearance of the skull, they are rather large in size, and should lie close to the sides of the head, gradually tapering towards the tips, the hair on them being shorter than that on the body, and the less feather on them the better.

The neck should be short, thick, and muscular, the chest inclined to be wide, and the shoulders turned out. The back, which is lower at the shoulders than at the loins, must be long and the barrel compact and well ribbed up. The forelegs, which should be short, are heavy in bone, and straight until the ankles are reached, where they bend inwards somewhat, whilst the feet are large and possessed of substantial soles. The tail is of fair length, and is carried gaily when the dog is excited, whilst the hind legs, which are, as in the case of the Bulldog, longer than the front ones, should be big in muscle, and well bent at the hocks. Dandies vary in size, from about 25 lbs. to 15 lbs., the bitches being smaller than the dogs, and in colour may be either “mustard” or “pepper”; the former shade speaks for itself, as it is a kind of sandy yellow, whilst the pepper may be described as being a dark steel-grey, though the shade varies considerably in different animals.

The coat of the Dandie is a curious mixture of hard and soft hair, the former of course predominating, as a silky-coated specimen could never pass muster in any company, and it is worthy of remark that the jacket is far harsher on the

back than it is under the belly. Upon the top of the skull is a sort of top-knot composed of hair of a silvery colour and longer and finer in texture than that which clothes the body. The ears are smooth, and the legs are feathered but slightly.

The Hard-haired Scots Terrier.

The reappearance of this long-neglected and most excellent little dog is a great credit to his old admirers, who stuck to him in the dark days of adversity, and have since been amply rewarded for their devotion by the immense popularity he has achieved amongst all sorts and conditions of men during the past twelve years. That this popularity is thoroughly well deserved, and is likely to be increased as the breed becomes still better known, is to be gathered from the fact that good dog as the Dandie Dinmont is, the Hard-haired Scotsman is his equal at every point. The subject of this chapter is dead game, most devoted to his home and master, a capital guardian to property, and above all a born sportsman. No day is too long for him, especially if there is some excitement going on, and the eagerness with which the little "Diehards" will go in and have a slap at any sort of vermin does a man good to see.

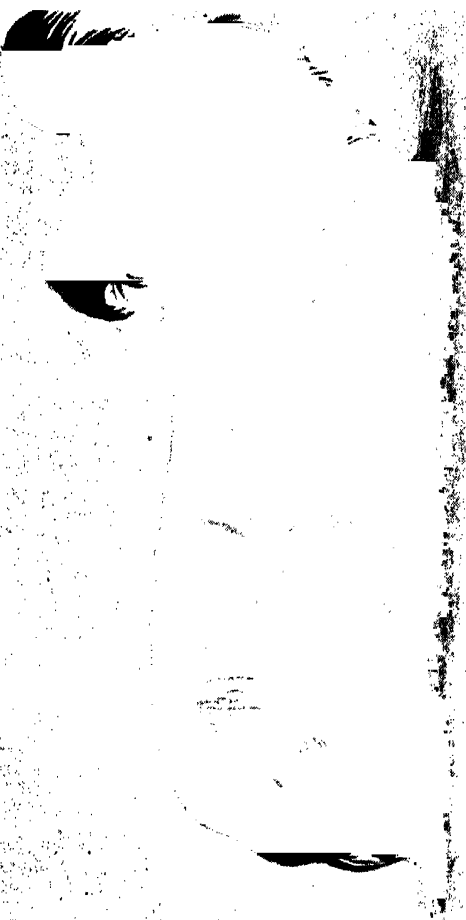
Possibly no hardier variety of dog exists. They can live anywhere, and eat anything, as their wiry jackets seem to render them impervious to all climatic influences, and their constitutions appear to be as hard as iron. Consequently



the Hard-haired Scots Terrier may be recommended to those who are in want of a wire-haired, game, faithful, old-fashioned looking vermin dog beyond all others, but purchasers should see that they get them from a good strain, or else the animal may be a disappointment to all concerned. At one period in his career the Hard-haired Scotsman was dubbed the Aberdeen Terrier, probably because the good men of the Granite City had been sportsmen and keen judges enough to support the good little dog when others passed him by. The title was a misnomer all the same, for Aberdeen possessed no special claim to the tyke, and what is more the breeders there were candid enough to admit the fact. The following are the points of the Hard-haired little varmint who is, in all probability, destined to become the most popular of all the varieties of dog that hail from the Land o' Cakes.

The head long, slightly domed and covered with short hair. There is a distinct drop or stop between the eyes, and the muzzle should gradually taper thence towards the nose, which must be jet black, of good size, and project a little over the mouth. The jaws should be very powerful, and the teeth perfectly level and of extreme whiteness. The eyes are small and piercing, very bright and somewhat sunken, and they should be set rather wide apart. The ears should be quite erect (semi-drop are tolerated, but full drop never), as small as possible, sharp pointed (a "bat" ear is an abomination), of the texture of velvet, and absolutely devoid of fringe or feather, which is indication of a Skye cross. The neck ought to be short, thick, and muscular, whilst the shoulders slope and the chest is both wide and deep.

The body should not be too long, although the erroneous tendency of the age is to admit long-casted dogs. The loins must be very strong and the hindquarters exceptionally powerful. The fore-feet are short, very thick and straight, a slight bend will not disqualify all the same, and set on nicely under the body, no out-at-elbow formation being permitted in this variety. The tail is set on high, and is very often carried gaily with a slight bend. The hind legs, like the front ones are short, and heavy in bone, the hocks being well bent. The average weight is about 17 lbs., but bitches of course run somewhat lighter than the dogs. Colours vary very considerably, the most common being steel grey, black and brindle, but mustards, yellows and reds are often met with. The question of the coat although kept until the last is one of the most important that has to be considered. It should be short and broken, as dense as it is possible to conceive, and very hard and wiry—the latter points are absolutely essential, as the admirers of the Scottish Dickhards would scorn to be seen in the company of a dog of the breed whose jacket was not proof against the ravages of weather. In general appearance the Hard-haired Scots Terrier is an old-fashioned, very intelligent-looking animal, compactly built, and apparently quite ready to go anywhere with his master, and attempt anything at the latter's bidding. Moreover, let it be noted that Scottie seldom belies his appearance.



The Skye Terrier.

There is no room left for doubting that the popularity of the Skye Terrier has decreased considerably during the past twenty years. Possibly this untoward circumstance is due to the fact that his breeders have "gone in" for elaborate coats and general molly-coddling of the dog, but the resuscitation of the Hard-haired Scots Terrier has unquestionably had a great deal to do with the downfall of his compatriot the Skye.

The latter, however, possess plenty of qualifications to recommend them to dog-lovers, for they are good vermin dogs and show great affection towards their masters. On the other hand the fact that, for show purposes, they should be long-coated tells against them, as they lose their hair if hard-worked and then present an unkempt rough appearance that must be most annoying to their masters.

The head of the Skye Terrier possesses the peculiar feature of being narrower at the back of the skull than it is behind the eyes, whence it should taper off to the nose, which is black. There must, however, be no snipyness or weakness about the jaws, which should be punishing and the teeth must be big and level. The eyes are dark in colour and are set nearer together than in the Dandie, whilst as regards size they should not be so large as those of the latter dog; on the other hand a deepset eye is to be deprecated as is a very small one. The question of ears, is a matter of option, as

there are both Prick-eared and Drop-eared Skye Terriers, the dogs being similar in other respects. The Prick-ears, which are well provided with hair on the inside, stand up perfectly erect, whilst the drops hang flat to the sides of the head. The former perhaps are the better for setting off the length of the dog's skull, as the drop-ears somehow detract from the general smartness.

The neck is somewhat longer than that of the Dandie Dinmont, the shoulders slope, and the chest is wide and deep. There is a great length of back, and the fore-legs are short and big and straight, the feet small and compact. The tail which is carried low should be slightly curved, and the hind legs short and nicely bent at the hocks. A nice weight for a Skye is about 17 lbs. or 18 lbs., but a little more or less is quite permissible. As regards colour there can be little doubt that the greys—dark and light—are the most popular, but blues, linties and sandies are also found in plenty and are quite orthodox shades. The coat, which should be very profuse upon the back, must be very hard and quite free from any tendency to curl. On the head the hair is of course shorter, and feathering on the ears and tail is looked for in a Skye.

The Irish Terrier.

Not twenty years ago the subject of this article was sneeringly alluded to by a writer on canine subjects as the "Tinker's Dog," but now, thanks to the good offices of loyal



Photo by Arthur Weston, London.

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MR. GEO. R. KREML'S IRISH TERRIER "BRIAN O'K."

friends and in a still greater degree to his own intrinsic worth, the Irish Terrier occupies a very bright position in the doggy world. His appearance has unquestionably been improved, his pluck is undeniable and indisputable, whilst his high spirits and love of sport render him a companion fit to take anywhere and introduce into any society. To Mr. George R. Krehl is due the chief credit of popularising the Irishman in this country, and well satisfied must this enthusiastic dog-lover be at the success of his perseverance.

The skull of the Irish Terrier is of considerable length, and flat upon the top. It is narrow between the ears and the width is still further decreased as the eyes are approached. There should be very little drop in front of the eyes, which are small, a trifle sunken and full of life. The jaws are strong and muscular, of fair length, and adorned with a few hairs resembling a beard on the under side. The teeth must be strong and level, and the lips tight, the nose being as black as jet and of a good size. Up to a comparatively recent date the ears of the Irish Terrier used to be cropped, but the edict of fashion now prohibits this process, and therefore it may be said of the ears that they must be small in size, V-shaped and carried close to the head with the tips pointing forward, they must not bear any fringe, and the hair on them is short, and often of a darker colour than that on the body. No throatiness is permissible about the neck, which should be of a nice length, and the shoulders must be long and sloping, whilst the chest is deep and rather narrow.

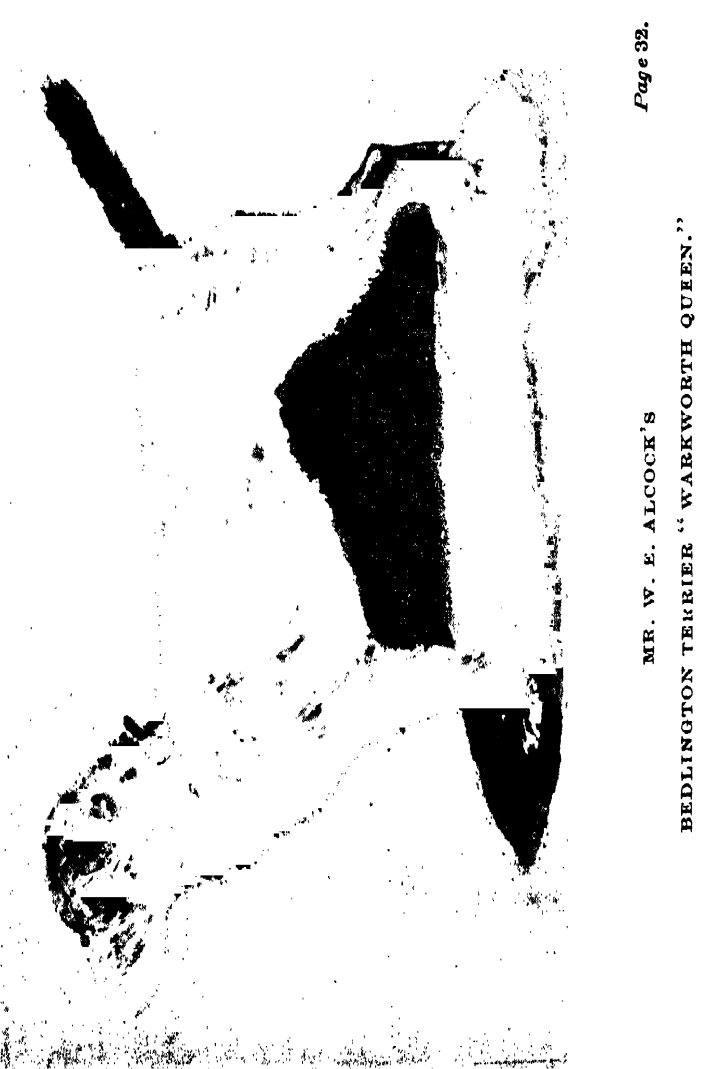
The back is moderately long, of considerable strength and

perfectly level, the ribs well sprung and the loins powerful. The fore-legs must be dead straight, of moderate length and set on well under the body, whilst the feet should be small and round. The tail, which is usually docked, is carried gaily and set on high, whilst the stifles are well bent and the hocks placed near to the ground. About 22 lbs. is a good weight for an Irish Terrier, the best colour being a bright red, but wheatears, yellows and greys are also met with, although not so highly esteemed. Brindle is not recognised and a dog of this shade would be disqualified at a show. The coat is very wiry and hard, free of all shagginess or curl, and as weather-resisting as possible.

From the above description it will be seen that the "Dare Devils," as their admirers love to style them, are a very sporting-looking lot, whose popularity is not at all likely to be decreased as they become better known amongst Englishmen at home and abroad.

The Bedlington Terrier.

Whatever may be urged against him by his detractors, and of course like every other dog he possesses such, the charge of cowardice can never truthfully be laid at the door of the Bedlington Terrier. For years and years he has been the darling of north-country pitmen, who love this game dog for his own intrinsic worth and do not always pause to consider if his temper is a little uncertain or his manners open to



MR. W. E. ALCOCK'S

BEDLINGTON TERRIER "WARKWORTH QUEEN."

criticism. There is another point, too, about the Bedlington which serves to make him not everybody's dog, and this is, the absolute necessity that exists for trimming him by plucking the superfluous hair from his top-knot and jaws, if so be that he is required for show purposes. There may be dogs belonging to this variety that are capable of being honestly shown; but, on the other hand, those included in the other category are so far in the majority that more than one exhibitor, who liked the breed, has abandoned it in disgust.

Placing these unfortunate attributes on one side, it cannot be denied that the Bedlington is a grand dog for the sportsman; he is always ready for work on land or water, is dead game, and possesses marvellous recuperative powers. As a fighting dog he is decidedly the inferior of the Bull Terrier, as he is inferior to the latter animal in strength of jaw; but no dog could possibly be more resolute and willing to do or die, and as a consequence he is very naturally highly esteemed by those who require a useful and reliable companion.

The skull of the Bedlington Terrier is rather narrow, and of a dome-shape, high at the back and bears a silky top-knot upon it. The jaws are long and taper sharply towards the nose, there should be no "stop" or indentation between the eyes, and the upper teeth frequently show a tendency to extend beyond the underneath ones, though the level jaw is preferable. The nose projects somewhat, its colour depending upon the colour of the dog's coat, the dark-coloured animals having black noses, the livers or sandies flesh-coloured ones.

A similar observation applies to the colour of the eyes, which may be either dark or light as the shadings of the jackets vary ; but in every case they must be small and sunken. The ears are filbert-shaped, of a fair size, carried close to the sides of the head and fringed with hair. The neck is long, the shoulders sloping and the chest only moderately wide.

The body should be *flat*-sided, deep at the chest, of a good length, well ribbed up and slightly arched ; whilst the legs are rather long and perfectly straight, the feet being large and long. The tail is carried with a slight curve, is set on low and bears a little fringe on the lower side. The average height and weight are respectively 16 inches and 24 lbs. The colours are dark blue, blue and tan, liver, liver and tan, sandy, and sandy and tan, which provide a pretty ample field for selection ; and the coat should be hard on the outside, but close and soft beneath so as to render the animal impervious to cold and wet.

The Welsh Terrier.

Whether the subject of this chapter is genuinely entitled to the name it bears, it is impossible to say, but it may be stated that at one portion of its career it was bracketted with the so-called "Old English Black and Tan Terrier Rough Coated," an apocryphal animal, most probably, but decidedly one that should be avoided if only on account of the terrible name it bears. At all events, the Welsh Terrier exists in the present day, and therefore it would be unfair to inquire too closely into



Photo by G. W. Webster, Chester.

its pedigree, especially as those who try it, affirm that it is game and hardy, and certainly it looks both, and that is a great deal in its favour. The chief points of the breed as laid down by the club that has been promoted to guard its interests are briefly as follows :

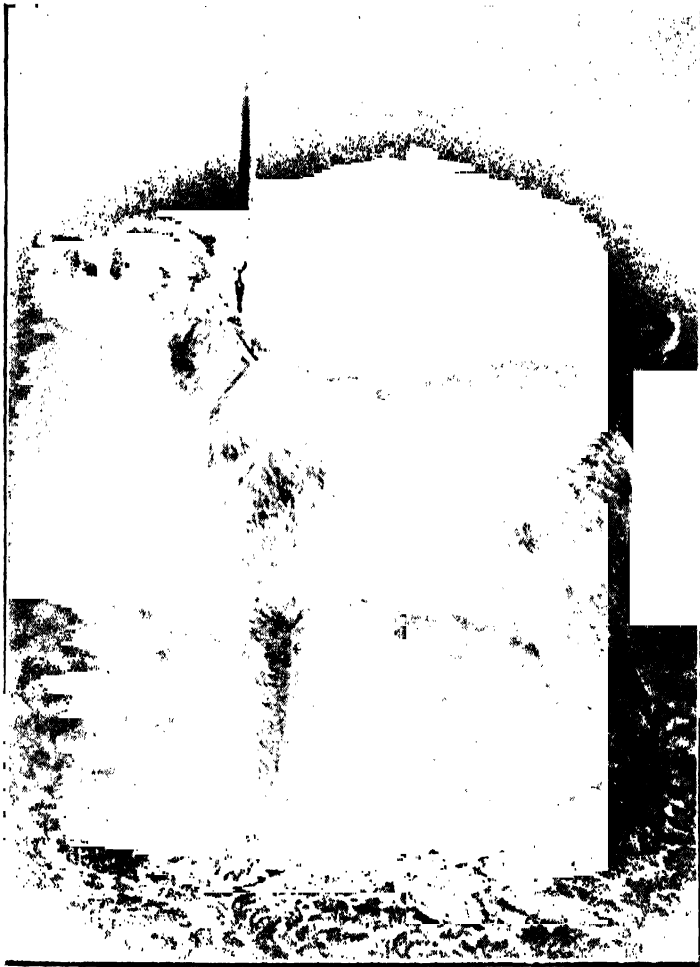
The skull is flat and rather wide between the ears, there should be very little "stop" and the jaws must be long and powerful. The eyes should be small and of a dark hazel colour, whilst the ears are small, V-shaped and carried close to the cheek as in the case of the Fox Terrier. The neck is of fair length, slightly arched into the shoulders, which are sloping and set well back, whilst the body is short and well ribbed up, the loins being very strong and the chest of nice depth and width. The fore-legs are fairly long, very straight and set well under the body, the hind ones being rather straight and the feet in either instance being small and round. The tail is usually cut, and should be carried gaily, the colour of the dog being black and tan, perhaps the former is a little grizzled, with no pencilling on the toes. The height is about 15 inches and the weight averages 20 lbs. for a good specimen. The coat is wiry, hard and very close, and not too long.

The Airedale Terrier.

In spite of his owning a fair number of friends it is scarcely probable that the Airedale Terrier will ever become a very popular breed, as his size alone will cause many would-be

supporters to prefer a wire-haired dog of lesser weight that would be useful for going to earth, if required. Opinions differ a good deal, however, as regards the correctness of the Airedale's claim to be admitted to the front rank of many game and useful Terriers. On the banks of a river, there is of course, an opportunity for him to distinguish himself, for he is a good water-dog beyond all doubt, and his superiority in size would naturally enable him to make things very unpleasant for a fox or a badger, always provided that he could force his way into its earth. But sportsmen who care for fair play, will probably fail to see the fun in setting a big dog on to a smaller animal, even though the latter be included in the category of vermin; whilst above all, why should a big dog be kept to do work that a far lighter animal can succeed in accomplishing in quite as satisfactory a style? As, however, the Airedales possess the right to be included in the category of English Working Terriers, the following scale of points is appended.

The skull of the Airedale Terrier is flat and not too wide, decreasing in width towards the eyes, which should be small and keen-looking, and, of course, dark in colour. The jaws are very powerful, the teeth perfectly level and of large size, the nose dark and the muzzle which must not be snipy should be entirely free from any tendency towards lippiness. The ears should be small, rather smooth and carried with the tips forward and close to the sides of the head. The neck must be clean and rather long, the shoulders long and sloping, whilst the chest is deep and rather narrow.



The back is short, and the loins should be well ribbed up, the tail, which is usually cut short, being set on nearly level with the back and carried rather up. The fore-legs are straight and well provided with bone, the feet being compact and strong soled, whilst the stifles are well bent with the hocks near the ground. In colour the Airedale is a tan, with a bluish grizzle saddle extending as far as the back of the head in one direction and to the root of the tail in the other. The grizzle marking should also appear on each cheek, but not so clearly as upon the back. The coat of a dog belonging to this breed should be broken and rough, very harsh in texture but not long or straggly. The fore-legs are slightly feathered, but the hind ones show very little broken hair from above the hock downwards. Opinions differ as regards the best size, but about 44 lbs. for a dog and 40 lbs. for a bitch is a good weight.

Selecting Your Terrier.

In the eyes of a sportsman all Terriers must be good but it must always be borne in mind that some are better for certain duties than others, and, consequently, a few words in the shape of a *resumé* of what has gone before may not be out of place. The Bull Terrier, the Hard-haired Scots Terrier, and the Irishman are surely the three gamest-looking members of the canine race, and the fact that each of the three varieties excels in a different branch of sport is a happy coincidence that should be welcomed

by a writer on dogs, inasmuch as he is thereby relieved of the necessity for drawing invidious comparisons between the trio. . Briefly speaking the first is a born gladiator imbued with a strong taste for sport, who will face all and kill most animals. The second is the beau ideal of a terrier for work on broken or rocky ground, whilst the last-named is simply perfect as a fast hunting terrier who can beat up game or go to earth after a badger at a moment's notice. Each of the three varieties has its own speciality, but not one of them can—taken all round—give the fraction of an inch away to either of the others, as a perfect terrier, be the requirements of his owner what they may.



Photo by Arthur Weston, London.

MISCELLANEOUS BREEDS.

CHAPTER III.

The Bulldog.

It can scarcely be claimed for the Bulldog, even by his most enthusiastic admirer, that he is, so far as his personal identity is concerned, a very useful member of canine society. In the good—or bad—old days, however, the Bulldog was accounted a very sporting animal indeed, as the chroniclers of the many encounters that are recorded of his engagements with lions, bears, bulls, and other formidable creatures are unanimous in testifying.

The services of this dog to his race are nevertheless almost inestimable, as the bulldog pluck of which John Bull is so fond of speaking, has been transmitted to a greater or less extent to every breed with which he has been crossed. It is remarkable, moreover, that even in its most diluted form the blood of the Bulldog is perceptible in the person of the animal which owns him as an ancestor. Outbreeding appears to depreciate its quality to the smallest possible extent, for unlike the gamecock, our national dog can transmit his indomitable courage through many a generation of mongrels.

It is scarcely remarkable, therefore, that Englishmen, even if not doggily disposed, should like to see a bulldog now and then ; the more so perhaps as the beast, in spite of being the

incarnation of pluck, is a most peaceable, long-suffering animal when not excited. A better-natured dog cannot be found—of course, we are generalising, as there are exceptions to every rule—nor a kindlier companion for children, than the rugged-countenanced Bulldog, who will stand more putting upon by those he loves than any dog in existence.

Bulldogs vary in weight very considerably, ranging, as they do, from over 60 lbs. down to 20 lbs. or less, a decided movement having been lately made in favour of the light weights, most of the best specimens shown being the property of Mr. S. R. Krehl. The 60 lbs. are not invariably free from suspicion of a mastiff cross, and, consequently it may safely be assumed that the middle-weights, as they exist in this degenerate age, are the best representatives of the correct type. A great peculiarity of the Bulldog is that he invariably flies at the head of his victim, and a second trait in his character is that, when he once gets a hold, he hangs on. This latter peculiarity renders it well-nigh an impossibility for him to pose as a fighting dog, and consequently the sensational and mendacious reports that occasionally appear in print descriptive of sanguinary encounters between *Bulldogs* are simply nothing more nor less than exaggerations of the grossest kind. Having thus unburdened our minds of a great fact, we have only once more to give expression to the conviction that the modern Bulldog may fairly be relegated to the category of canine toys ; as, for all practical purposes, he has ceased to be connected

with sport or sportsmen. A detailed description of his points may nevertheless be useful, and this may be accepted as follows :

The skull, which is a most important point, should be as large as possible, square in appearance, and covered with a fine skin, which should be well wrinkled. Between the eyes, which should be set wide apart, there is a deep indentation, termed "the stop," from which a deep groove should run upwards towards the back of the skull. The eyes themselves are required to be large, round, moderately full, and if they show plenty of white it is all the better. The nose, which should be black, must be *retroussé*, of a good size, and slant back towards the stop. The upper jaw is very short, but the lower one should project beyond it very considerably. It should also be as wide as possible, and should betray a decided disposition to turn up, saucer-like, so that an imaginary straight line might be drawn from the tip of the lower jaw, past the nose, to the forehead above the stop. Of course few dogs are so turned-up, under-hung, and *retroussé*, as to show this formation to perfection, but the desirability of some approach thereto is obvious from the nature of the Bulldog's mission in life. If his jaws are under-hung and wide, and his teeth in good condition, he can pin his bull and hang on to him, whilst the lay back of his nose enables him to breathe the while. But to return to the Bulldog and his head properties. The flews or "chop" should be long and pendulous, and there should be clearly-defined bumps on each cheek at the joints of the jaws. The only

correctly-shaped ear is the "rose," which consists of the tip falling backward and disclosing the orifice; they should, moreover, be very small and thin in texture, and be set high up and wide apart, well back at the corners of the head, so as to impart the desired appearance of squareness to the skull.

The neck should be short, thick, and adorned by a sort of double dewlap, the chest must be very wide and deep, with the shoulders turned well out, so that the animal's body appears to drop between them. The fore-legs ought to be straight, short, and very muscular, so muscular in fact that they appear bowed, the pasterns straight, and the feet round, well arched at the toes, and slightly splayed. The body is short, and (owing to the desired drop behind the shoulders and rise at the top of the loins) wheel-shaped, which presents the "roach back" so much sought after by the initiated. It should taper towards the stern, and the loins should be tucked up; and, in fact, the Bulldog should be pear-shaped from the shoulders backwards. The hind legs are longer than the front ones, the stifles should be straight, as should the hocks, which should be near the ground, and the hind feet should turn out slightly, which will cause the hocks to turn in. This peculiarity, when present, as it always should be, causes a certain amount of difficulty to be experienced by the dog in raising his hind legs, which he should switch along the ground as he moves, while his body rolls as it were, between his out-turned shoulder-joints. The tail of the Bulldog, which must be short and tapering, should be set on low, and it is most desirable that a



Photo by Brown, Barnes & Bell, Liverpool.

“ESSRS. HOLME & HOLLIDAY’S COLLIE “RUFFORD ORMONDE.”

crook or knot, which gives the appearance of a healed fracture, should be present near its base.

Every colour, save black, is permissible in a Bulldog, the most common being fawn, brindle, red, and the pied variety of each. Whites also are to be met with, but not so frequently now as in former years. The combination of a light coloured eye and a yellow or flesh coloured nose is a disqualification in a Bulldog. These animals are called Dudleys by the initiated, and should be ruthlessly destroyed.

The Collie Dog.

The Collie or Sheep dog has become so generally popular that it is impossible to omit all mention of him from a book upon dogs. At the same time it must candidly be stated that, from the writer's point of view, there is not very much in the way of flattery to be bestowed upon the modern production. In fact, the Sheep dog, as he often exists, is a ghastly caricature of his former self, his points of utility having, to all intents, been carefully eradicated by his latter-day admirers. His ruin was commenced some years ago, when he was "taken up" by Cockney ladies and gentlemen, who, knowing no better, insisted upon having dogs of a rich, "warm" tan and nice silky coats. Now the above are attributes that are entirely absent in a genuine Collie; but "enthusiastic" breeders, possessed of itching palms, promptly set to work to supply the market, and, doubtless, with complete pecuniary success,

The services of the Gordon Setter were obviously enlisted to aid these people in the object they had in view, and hence the appearance of open silky-coated, Settery-eared dogs, rich in the shade of their tan, which is a fault in a Sheep dog, as his tan ought to be light or "mealy" in hue ; and the feathering on his legs extending down to the ground, instead of stopping some inches above it, as in the case of the true Collie. As these Settery-looking mongrels found customers among the uninitiated, of course it must be admitted that they fulfilled their mission in life ; but even this circumstance alone cannot justify the exaggerated heads that we see the rage now-a-days. The old style has given way to the new with a vengeance of late years, and it is impossible for the intelligent observer to entirely disabuse his mind of the conviction that there is a cross of the Borzoi (Russian Wolfhound) about many of the existing cracks. Although the Collie is generally and most properly regarded as one of the most intelligent varieties of dogs in existence ; the least said in favour of the beautiful Borzoi in this respect, the better for the animal in question. If, therefore, the true facts justify appearances, some modern breeders of the Sheep dog will have a good deal to answer for on account of the injury they have done to the Collie.

There is another very weak spot in the anatomy of the Sheep dog of the present day, and this is the narrowness of his chest, which narrowly limits the heart and lung room, and renders him peculiarly susceptible of cold. This, combined with the absence of the proper texture of coat, would render

his existence on a bleak hillside simply unendurable. The Collie being a dog that is required for work, the *fin de siècle* breeders are scarcely to be congratulated upon the results of their labours.

An intending purchaser should, therefore, put to himself the question: Do I require a Sheep dog for utility or simply to keep as an ornament? If the former description of animal is required, he should carefully eschew some of the most fashionable winning strains, the representatives of which would be physically incapable of earning their food as working dogs. Of course, this sweeping condemnation does not apply to all prize-winners; but, unfortunately, the cap will be found to fit a fair proportion of them. On the other hand, if a good-looking, typical Collie is required, there should be no difficulty at all in procuring the right sort of dog at a fair price, if inquiries are made in the proper direction. That dogs of the last-mentioned type will again attract the support of thinking men is certain, for the time must sooner or later arrive when common sense and a knowledge of what a Sheep dog should be, will triumph over ignorance and the desire to alter and "improve" what is already one of the best varieties of dog in existence.

The head of a Collie should be of fair, not exaggerated length, flat, not domed at the top, and should gradually taper towards the muzzle, which ought to be blunt and quite free from any taint of snipyness. The eyes are set obliquely and rather far apart, and should possess that peculiar languishing and intelligent look which is so characteristic of the breed. The

jaws are fairly powerful and the teeth regular, although a slight tendency towards being pig-jawed or over-hung is not a disqualification here as in certain breeds. The ears should be very small and semi-erect, the dog possessing the power to "cock" them when excited. The neck is of fair length and arched, well set, and the shoulders must be long and sloping so as to enable the dog to gallop after his sheep, whilst the chest is very deep and of reasonable breadth.

The back of a Collie should be broad and muscular, rather short, with very powerful loins. The front legs should be set well under the dog's body and be of fair length, not too heavy in bone and perfectly straight, the feet being compact and the toes arched. The hind legs are well bent at the hocks and stifles. The tail or brush is rather long, well feathered, and a little bent at the end; but it is a decided fault if the dog carries it up, unless momentarily when excited. The colour varies in a Collie; but the rich mahogany tan is always to be shunned as indicative of the Gordon Setter cross. Black and pale tan, black and white, tricolour, sable, sable and white, "mirled" (a peculiar grey shade), are all fashionable, whilst one of the best-looking dogs of the present day in many respects—Mr. J. Ayton's "Archie"—is of a peculiar lavender hue which is most attractive to the eye, especially as he is a first-rate specimen of the breed.

A very great feature in all Collies is their coats, which consist of two distinct parts in the case of the rough-coated variety. The outer coat should be long, entirely free from curl, and the least approach to silkiness is to be studiously

avoided. The under coat is short and of a finer texture, very dense, and almost of the consistency of sealskin. This is really the sort of jacket that protects its owner from cold and wet, and it is never to be met with in a Setter-bred Collie. The coats of the smooth-coated variety resemble the under jacket of their rough-coated relations, with the exception that their jackets are of a somewhat harsher texture. In the long-haired dogs, the frill and ruff upon them are great points to be acquired ; but it should be noticed that the feathering at the back of the fore-legs should not extend nearly down to the ground, as in the case of the Setter, but stop some two inches above the fetlock joint. The feathering at the back of the hind legs should not extend below the hocks.

The Bob-Tailed Sheep Dog.

The Principality may be regarded as the stronghold of the Bob-Tailed Sheep Dog in the present day, but, at the same time, many of the most enthusiastic supporters of the breed are to be found in the neighbourhood of London. The Bob-Tail for many years past has been a popular feature at the principal shows, but it is curious to notice that the circle of his exhibitions increases very slowly. This is possibly due to the fact that a very large number of the puppies are born with the full complement of tail, which has to be removed, and this practice is objectionable to many breeders, who dislike mutilating their dogs. The breed also requires a good deal

of manipulation before the coat is in a proper condition to exhibit, and many owners object to any smartening up of the jacket of the Bob-Tail.

The Bob-Tailed Sheep Dog is an excellent companion, and a capital watchman over both cattle and sheep, and, in consequence, is highly appreciated by those who keep him either as a pet or else for purely business purposes. His picturesque appearance is the means of attracting a great deal of attention from strangers, and it is somewhat remarkable that he is not more widely supported than he is, especially as his intelligence is very great, and his constitution as hard as iron. Possibly his rough, shaggy coat is of such a density as to hardly qualify him for a place in a work which chiefly treats with dogs suitable for hot climates ; but the experiment of trying him in India is well worth attempting, and he should stand the heat every bit as well as a Collie.

In appearance the Bob-Tailed Sheep Dog is a shaggy, unkempt-looking animal, not very unlike a bear, with a big, square, massive head, and small ears and eyes. The latter organs are dark brown, but the addition of one china, or wall, eye is considered a great attraction in the case of light-coloured specimens of the breed. The body should be square, and none too graceful-looking, lower at the shoulders than at the loins, whilst the latter and back part of the body should be strong and massive. The fore legs should be straight and heavy in line, the feet large, and the hind legs moderately bent at stifles and hocks. The coat should be very dense, harsh, and slightly wavy, whilst the best colours are dark blue or grizzle,

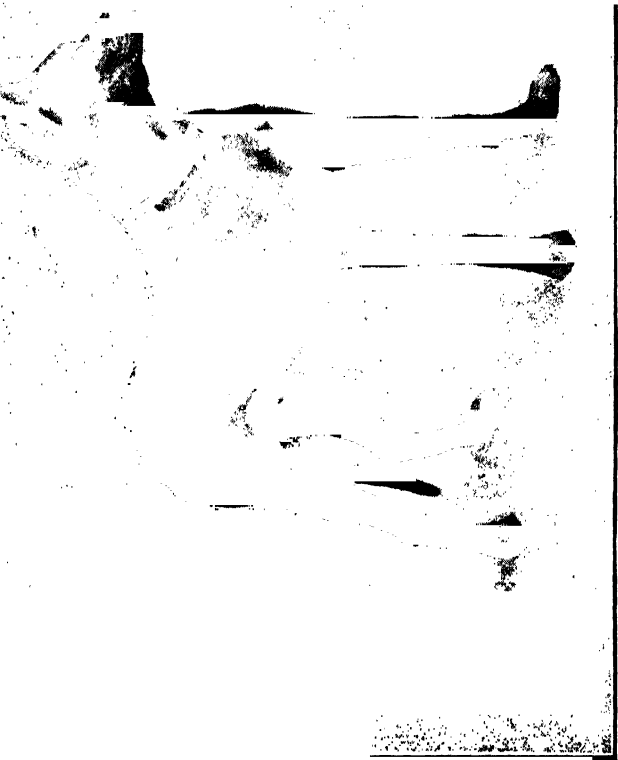


Photo by Mr. Gambier Bolton.

MR. J. E. WILBEY'S GREAT DANE "LEON."

which are sometimes mixed with a little white; but a too gaily-marked Bob-Tail is not appreciated by the cognoscenti.

The Great Dane.

Of all the varieties of big dogs there is none to compare with the Great Dane from the sportsman's point of view. Not only is he capable of being developed into a very useful animal for certain purposes in the field as he already exists, but his value as a cross for other breeds is in some instances invaluable. Those in want of a large-sized and ferocious dog, as a guardian for their homes, would be pretty certain to obtain what they require from the Great Dane and Bull Terrier cross, as the result should certainly be an animal that would stick at nothing, provided that his education had been properly attended to, and he had been taught his work. Such a dog should also be very valuable in the Colonies where hyænas, wild dogs or wolves abound, as the size of the Great Dane added to the incomparable pluck and the activity of the Bull Terrier should render the offspring of such a union a most formidable beast.

That the Great Dane is an ancient breed none can disallow, as he is mentioned by most of the writers on dogs of many years ago. Various surmises have also been hazarded as regards his origin, Buffon holding that the breed is an offspring of the Sheep dog, whilst Sydenham Edwards connects his

production with the Dalmatian. Still he always was a tall dog. Richardson in fact observes that he rarely stood less than 30 in. at the shoulder, and therefore there can be but little credit due to recent breeders on account of the size that the modern dogs have attained. That his appearance has been improved, and that within the past few years, none can deny, but it is to be feared that his stature will be against his general popularity, as it is impossible for a great many persons to indulge a taste for breeding large dogs. The room that would be required would be too great, and the expenses too heavy to suit everybody's pocket. There are also other breeds of canine giants who have their admirers.

Still for sporting and general purposes in a wild country, the Dane would be most useful, and the attention of readers in the East should certainly be directed towards the merits of this breed. When his legs and feet are good, the Great Dane is a wonderfully active dog for his inches, but it frequently happens that the weight of his frame proves too much for his juvenile understandings, with the result that his pasterns turn crooked or he becomes cow-hocked and impaired in his action, if not absolutely a cripple.

The German Mastiff is undoubtedly a very near relation of the Great Dane, and it would be a puzzle to many persons to discover where one variety begins and the other ends, just as is the case with weedy light-weight Bull Terriers and their white English relatives. The German dog is, however, inclined to be heavier in the head and is not built upon such

fine lines as the Great Dane, whose points may be taken to be as follows :—

The head should be long, the brows fairly well developed and the stop or indentation between the eyes but faintly perceptible. The jaws should be very powerful, and perhaps slightly under-hung, the muzzle blunt, the eyes small and rather deeply set, whilst the ears, which are usually cropped short, are set near together. The neck is long, clean, graceful and very muscular. It is slightly arched and set into sloping shoulders. The chest ought to be of moderate width but of considerable depth, the back is not of great length, the loins are arched, and rather tucked up. The fore-legs should be very straight, heavily boned and muscular, and the feet of large size, round in shape, with the toes arched and very powerful nails. The tail is set on rather low : it is slightly curved, and carried upwards when the dog is excited. The thighs are very powerful, the stifles and hocks being well bent. The Great Dane occurs in many colours, blues, reds, blacks, whites, or pied being all found. The latter are styled "Tiger Dogs" in Germany and the colour should be accompanied by a wall or china eye, and a light-coloured or spotted nose. The coat should be short and very hard and close. The weight of a good dog is about 130 to 140 lbs. and that of a bitch about 20 lbs. less ; although first-class specimens scale heavier. The respective minimum heights may be accepted as being 30 in. and 28 in.

The Poodle.

This old breed of Continental dog has within the past few years made rapid strides in popularity amongst Englishmen, and having become fashionable at home he has, as a natural consequence, found his way to many of our dependencies. It is most probable that the Poodle owes his existence to the old English Water dog, his appearance having been considerably altered by the course of time and the enterprise of breeders. In the absence of any reliable written authority, however, it is always a difficult and thankless task to attempt to trace the genealogy of a dog. Illustrations must surely be unreliable as guides; for we have only to compare the likenesses of say the champion Sheep dogs or Fox Terriers of a score of years ago, with those of the present top sawyers to find a great difference between them. If so great a change can be effected in the space of twenty years, how much alteration could be wrought in half a century or more, and here the difficulty and the uncertainty lies.

Probably the Poodle has descended from the old English Water dog, but be his origin what it may, it is to the enterprise of Continental breeders that he owes his improvement up to date. At the same time the closest inquiries have failed to prove that any particular district or even country possesses a fair claim to be considered the home of this dog. The expressions French Poodle or Russian Poodle are promiscuously applied to animals that may not have been bred

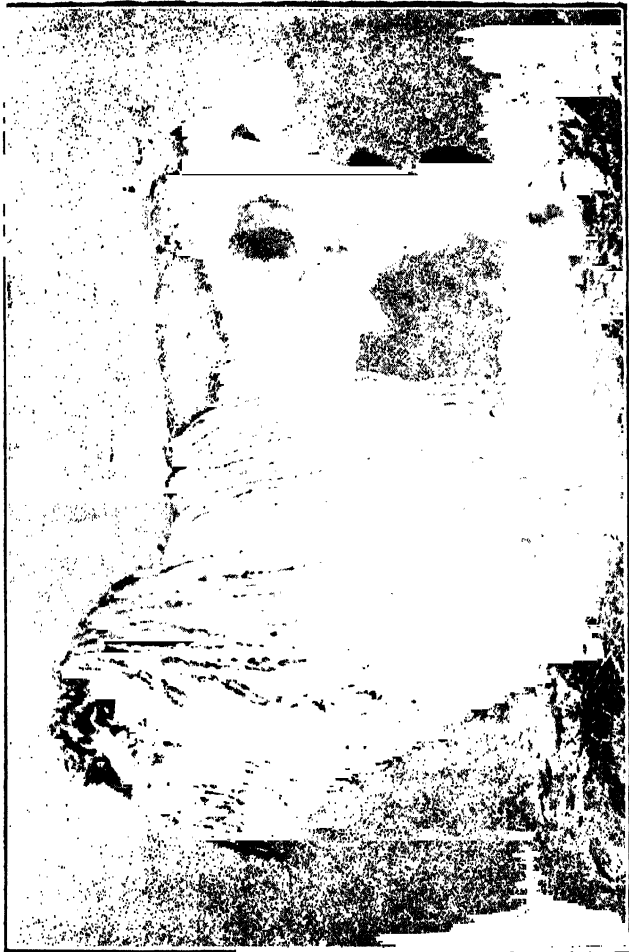


Photo by Bradner, Torquay.

MRS. WILLOUGHBY'S CORDED POODLE "RONT0."

near these countries, and whose ancestors for generations have existed and been improved or altered in type in parts of the world far distant from Russia or from France. In fact although much has been written and plenty of conjectures hazarded regarding the nationality and origin of the dog, the elucidation of the mystery has never properly been solved to the satisfaction of doggy men in general and canine authors in particular.

Fortunately for the Poodle, however, he has stronger claims upon the sympathies of mankind than the possession of an unassailable family tree. He is docile, a good companion, and capable of imbibing instruction to almost any amount. That he could, if properly broken, be made a useful dog in the field, must be accepted as a fact, for it would be a direct insult to his intelligence to consider him incapable of profiting by judicious training. The long corded coated variety, however, would be useless for outdoor purposes, as the weight of their jackets would preclude their moving far over heavy ground or in covert, but there can be no reason why less heavily coated dogs should not be perfectly well able to undergo the fatigue and knocking about.

The head of a Poodle should be long, the skull being of good size and wide between the ears, with rather prominent brows. The eyes are small and dark, set rather close together. The muzzle should be long and blunt, the teeth being level and strong, and the nose black or flesh-coloured, according to the colour of the dog. The ears are long and well covered with

hair, and they should lie flat to the cheeks. The neck is long and graceful, the chest deep, and the fore-legs of fair length and perfectly straight, with long feet. The back should be short, the loins powerful, and the tail, which is usually docked, is carried slightly upwards. The hind legs should be well bent, with the hocks near to the ground. The weights in Poodles vary from 60 lbs. down to 12 lbs. or 15 lbs. The principal colours are black or white, but pied dogs, and even red ones, are to be seen occasionally. The coat is either curly or "corded," the latter being decidedly the preferable; and the larger, thicker, and more rope-like the cords are the more the dog will be appreciated by judges.

The Japanese Dog.

This exquisite variety, which for years was known in England as the Japanese Pug, and is now termed the Japanese Spaniel, has recently become a great favourite in this country. A strong protest must, however, be launched against classifying it as a spaniel, for though the affix pug is also a misnomer, the Japanese Dog—except in one point—coat—is more like the Pug than the Toy Spaniel. A Spaniel's skull is far rounder than that of the Jap. The former's ears are long and set on low, the latter's are short and set on high. The eyes of the Spaniel are much larger, the legs are shorter, while the tail is straight, whilst that of the Jap is curled over the back. In fact, except that his coat is long and colour black



Photo by Mowll and Morrison, Liverpool.

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MRS. ADDIS' JAPANESE DOG "DAI BUTZU II."

and white the Japanese is more like a pug, but a far more correct name for him is the one given above, namely, the Japanese *Dog*. There is a precedent, moreover, for this title, as it is not so many years ago that the little fluffy balls of white which are now called Maltese Dogs used to masquerade under the designation of Maltese *Terriers*, whereas there was nothing of the terrier about them. Now, thanks to the good sense of their modern admirers, they are correctly described. Why should not the Japanese Dog receive similar fairplay?

The appearance of the Japanese Dog is as follows :

The skull should be lofty, the eyes of considerable size and set wide apart from each other, the muzzle short and blunt, while the ears are small and hang close to the cheeks with the tips pointing rather forward. The neck is longer and more slender than that of a Toy Spaniel, the shoulders slope, and the chest is deep, whilst the body is short and the front legs straight. The feet are long and the tail curls up tightly over his back, in which respect he certainly resembles the Pug. The less the weight is the more the animal is esteemed, it being the favourite practice in his own country for his admirers to carry the Japanese Pug concealed in the flowing sleeves of their dresses, hence the designation "Sleeve Dog" has been applied to the smaller specimens, which only scale 2 lbs. or 3 lbs. in weight. The prevailing colour is black and white, without tan, and the coat is ample and silky, the tail being well feathered. Any tendency to curl in the coat is a fault.

PART II.

MANAGEMENT OF DOGS IN HOT CLIMATES.

CHAPTER I.

MANAGEMENT OF DOGS IN HOT CLIMATES.

KENNEL AND HOUSE—GROOMING—CLOTHING—EXERCISE—WATER—FOOD
—TREATMENT OF THE BROOD BITCH—REARING AND BRINGING UP
PUPPIES—EDUCATION OF THE YOUNG DOG—THE MANAGEMENT OF
FOXHOUNDS—SHIPPING DOGS.

Kennel and House.—No lover of a dog should keep his friend and companion on a chain ; for such treatment, from its cruelty, is liable to sour the animal's temper. The consequent dragging on the chain, especially in the case of a puppy, puts the shoulders out of shape ; and the confinement ruins his form and health. If the owner requires a ferocious watch-dog, and not an affectionate comrade, by all means let him, if he likes, attain his ends by means which are neither humane nor sportsmanlike. Sharp, inquisitive house-dogs, like the various varieties of terriers, or even pugs, will keep intelligent guard at night, quite as well as, if not better than, the chained-up prisoner, on whose box, the warning, *Cave canem*, has to be attached. The chain, however, must not be altogether disregarded ; for it is useful for leading and for preventing the animal, if so inclined, from roaming.

Wherever a dog lives, whether with his master or in a kennel, he cannot keep his health unless his abode is dry, roomy, well

ventilated, and free from smells and other unsanitary conditions. The floor, therefore, of the kennel should be of cement, bricks, or other waterproof material; and the drainage should be in perfect order. If the climate be cold, the arrangements should permit of the complete absence of draughts, without interfering, however, with healthy ventilation. Its position should permit of the benefit of the morning sun. Whatever the climate may be, and especially in the tropics, dogs should not be allowed to take their rest on cold surfaces, such as stone and concrete. In cold climates, this practice gives rise, as a rule, to rheumatism, chest diseases, and diarrhoea; in hot ones, to congestion and inflammation of the liver. In the former, wooden benches raised, say, 2 ft. off the ground and well covered with clean, dry straw, or wood shavings, will meet the animal's requirements; in the latter, a bedstead with tape or matting stretched across it, or even a plain board, will make a suitable resting place.

In hot weather, he should have a free current of air about him. I may mention that, although draughts in cold climates are fertile producers of disease, they are a necessity to health in tropical climates. In India, we see this fact well proved in the case of ourselves, by the use of punkahs, which is indispensable to the preservation of health in the hot weather. To obtain all possible benefit from the circulation of air during the heat of the day, and even on "muggy" nights, the walls of the kennel, except for the upright posts which support the roof, may be of wire netting, against which the benches may

be placed. If the part of the netting which is below the level of the benches be covered in, all circulation of air underneath the benches will be cut off, and the hounds, as in the case of a pack, will be obliged to lie on the benches in order to obtain the luxury of any passing zephyr. This arrangement, for the tropics, would permit of screens being put on a level with and above the benches, so as to keep out the keen wind during chilly nights, or cold months. Hounds should have a separate yard in which to dry themselves in the sun.

In the tropics the dogs should be sheltered from the powerful rays of the sun. As long as the sun is "well up," and the heat at all oppressive, they should be kept indoors. It is essential for their health that they should be protected from the direct rays of the sun, by having overhead a thick roof formed, for choice, by a room above, or a thatched roof.

For single dogs, the coolest spot will often be under a tree, with thick foliage.

The principles of kennel management also hold good with the dog which is kept in his master's house.

Scrupulous cleanliness should be observed in the kennel, with every precaution taken to keep the place dry. A solution of sulphate of iron (one pound to a gallon of water) is the most easily procurable disinfectant. One of the most useful and convenient is Jeyes' Fluid, which dissolves completely in any proportion of water. One part of it, or of phenyl, may be added to 20 parts of water.

Grooming.—The dog will receive much benefit from

being well hand-rubbed, with a little massage thrown in, once, if not twice a day. After that he may be brushed over with plenty of gentle friction to stimulate his skin. The amount of friction and the kind of brush may be left to the judgment of the operator. Of course, no approach to roughness should be permitted. The coat of long-haired dogs, and especially of poodles which have long curls, should be carefully combed out and all kinks removed. This dressing should be done when the animal is "empty," as after exercise in the morning or evening, according to the time he is fed. Once or twice a week will be often enough to wash the dog, which may be done with warm water and some antiseptic soap, as Jeyes', Spratt's, or tar soap. The usual plan of forcing a dog into a tub full of water, and washing him like a nurse does a child, is as a rule very distasteful to the animal. A more comfortable plan, as far as the dog is concerned, is to pour warm water over him by means of a jug, for instance, and then soap him over, using more warm water as may be required. Care should be taken that no soap goes into the animal's eyes, and that all of the soap should be removed from the coat by a plentiful washing of water. After the dog has been washed he should be well dried with a rubber, and may with advantage then be taken out for a run until his skin has regained its normal action. Washing is necessary only for cleanliness; not for health, for which, good brushing, hand-rubbing, and the occasional use of a damp sponge or damp rubber, is sufficient. After the dogs come in from exercise,

their feet should be examined for cuts, or for thorns or splinters in the pads of the feet or between the toes. Though it may not be necessary every day, the feet, after a long run, should be washed, well dried, and some grease or sweet oil rubbed into them. This will not alone be a grateful application to the skin ; but its presence will induce the dog to lick his feet, and thus cleanse them in the best and most natural way. Long work on hard ground, especially when a dog is unaccustomed to it, is very apt to make him footsore. When Charlie Rowell, the great go-as-you-please man, used to take his runs from Cambridge to Bedford and back, he used to try to get a dog to follow him ; but was unable to obtain one whose feet could stand the work. A man with the advantage of having shoes or boots can go longer distances for a continuance on hard roads than either a dog or an unshod horse. This fact is mentioned with the object of directing the reader's attention to the liability of a dog's feet to become sore. Young greyhounds which are put to hard work, are, like horses, apt to get splints on their legs.

Clothing.—Although the dog will require no clothing in the hot weather, during which time every precaution has to be taken to keep him sufficiently cool ; he will, after having suffered from months of heat, become unusually predisposed to contract disease from chill. Consequently, on the approach of cold weather, or on the removal of the dog from a tropical climate to a temperate one, it is well to supply him with a warm woollen coat. In such cases, his liver is

specially liable to become congested from the change of temperature, so it is well to give it protection.

Exercise.—Health cannot be maintained without plenty of exercise, which, therefore, all dogs that are not prevented by sickness or accident should get ; the only restrictions being that they should not be kept out when the sun's rays are strong, and when their stomachs are full. Dogs which are out of condition, and especially those that have lately come off a ship, should be gradually put to work, without endangering their health by fatigue. Working dogs should be put, more or less, through a course of training ; as it would be unreasonable to expect them to do themselves justice, unless their wind was clear and their muscles strong. They might have an hour's run in the morning and a scamper in the evening. The running abilities of dogs are so different, that the question of speed and distance must be left to the owner to solve. In England it is well to take a dog along a road ; as work on it will harden the soles of his feet, and will also familiarise him with the sights of everyday life. If the owner sees that any of his charges shows an unexpected disinclination to take exercise, he should investigate the cause without delay ; for it may be due to derangement of the liver or rheumatism ; the former disease causing great lassitude ; the latter, pain when the limbs are moved.

Water.—Dogs under all ordinary circumstances, and especially in the tropics, should have a constant supply of fresh and pure water. I do not see any use in having it

artificially cooled for dogs. The custom of keeping a piece of sulphur in a dog's drinking water is time-honoured, though probably useless; for sulphur is practically insoluble in water. As injurious forms of animal and vegetable life generally abound in stagnant water in hot countries, the careful owner will try to prevent his canine companions from slaking their thirst at such places.

Mr. Vero Shaw writes: "Too much water for a dog is just as bad as too much whisky for a man. Some of the most successful breeders of the day, water their dogs only at regular intervals; a plan which has been found to answer admirably. Greyhound trainers thoroughly believe in the system of giving sloppy food and but little fluid to a dog which has to be good in his wind, and which has to show no 'lumber.'" This advice, I need hardly say, does not apply to the tropics.

Food.—We may consider the feeding of the dog under two aspects, namely, that of house and of kennel. When he is an inside resident, we should endeavour to avoid giving him food in too large a quantity, and of too rich a quality to eat. The great dangers to the health of pet dogs all over the world, are too much food and too little exercise, which are the fruitful causes in hot countries of liver disease and consequent death. If we can tempt him to adopt in part a vegetable diet, so much the better; but the pet, as a rule, will disdain anything but meat. Being a carnivorous animal, his digestion will often not suffer from it, if the

quantity be kept within healthy bounds, if his health be attended to, and if he gets plenty of exercise. Unlike animals which feed on herbs, the digestive organs of the dog are not suited to the assimilation of sugar and pastry. We know from experience that salted and spiced meat, such as curry, is injurious to him. He does not require any salt, beyond a little in his porridge, biscuit and broth ; but not to the extent of giving these articles a decidedly salt taste. No bones which the animal can swallow, or break up, should be given, until he has finished his repast, when a large bone will form an agreeable desert to gnaw at and clean his teeth. If fish be supplied, any bones which may be in it should be removed before giving the fish to the dog. These precautions as to bones are evidently necessary to prevent the dog choking himself or injuring his digestion by ravenously swallowing them, which he is liable to do if he gets them before his hunger is appeased. Leaving out symptoms of actual disease, an improper system of feeding the house dog will usually become apparent (1) by the animal becoming too fat ; (2) by his breath becoming offensive ; and (3) by undue liability to break wind and make a bad smell. When it thus appears that house diet does not suit the pet, he should be put on kennel regimen. The food in the kennel or at the hands of a servant, may consist of coarse oatmeal porridge, boiled rice (the common kind which has only the husk removed is the best) ship's biscuit, Spratt's biscuit, stale bread, or whole-meal girdle cakes and soup made from fresh meat. I can recommend

Spratt's beetroot biscuits, which are particularly good. If oatmeal be used, it should be put into cold water, with a little salt, and boiled for about three-quarters of an hour with frequent stirring. The meat may consist of butcher's scraps, paunch, sheep's and bullocks' heads, or cold roast or boiled joints. Though beef and horseflesh are good for dogs in hard work, they are more heating than mutton and goat flesh. Whatever kind of meat be used, it should be well boiled, so as to kill all parasites (especially those which generate tapeworms) contained in it. The amount of work should, as a rule, be taken as a guide for the amount of meat; though a certain quantity of flesh is an indispensable element to a health-giving food for this carnivorous animal. The soup should have vegetables (such as cabbage, turnips, carrots, beetroot, cauliflower, onions, nettles, or leeks) mixed through it, so as to form a kind of hotch-potch. In India, a sort of spinach, called *sag* in Hindustanee, is usually procurable. Failing vegetables, any suitable fruit might be used; the admixture of vegetables or fruit in the food of dogs being as necessary to health, as it is in that of man. Cabbage is perhaps the best vegetable for dogs. They should be always allowed the opportunity of eating grass, which they seek, seemingly, as an emetic for the relief of indigestion or biliousness. That great dog fancier, "Idstone," used to advise that the bones given after feeding, should be thrown on dry earth; for "unless they take in a certain quantity of mould or lime, the stomach becomes weakened or diseased." With a manageable number of dogs, each of them

ought to have his own basin, in which his ration should be placed. If the preparation of the food be intrusted to a servant, it is well for the master to inspect all the basins containing the food, which should be given cold, before the dogs are let loose on them. As an alterative, we may give half a teaspoonful of flowers of sulphur twice a week in the food.

As regards the number of times a dog should be fed every day, I may say that the best authorities agree that he should get a full meal in the evening about dusk, and half a biscuit or a few small scraps in the morning. A dog will take no harm being fed only once a day; for his digestive organs work best when they get long periods of rest. In this respect, they differ entirely from those of the horse. If the animal be required to act as a watch at night, the order of his feeding should be the reverse of what I have stated. In cold weather or in the hills, if dogs are kept out comparatively late in the forenoon, they may have their chief meal on their return, as in the case of fox-hounds (*see* page 78).

Treatment of the Brood Bitch.—Usually the bitch comes on heat two or three times a year, and continues in it about three weeks. At such a time, she becomes playful with male dogs; her sexual organs swell, and after about a week, a slight bloody discharge issues from her vagina. Towards the end of the heat, after the bloody discharge has ceased, is the best time to have her ‘lined.’ In order to prevent her forming any undesirable union, she should wear during this time a pair of drawers made for the purpose. Or she may be kept

on the chain or otherwise secluded. The use of drawers is the most convenient form of prevention, as it does not prevent her from taking exercise. The selected dog may be allowed to line the bitch a couple of times. She goes, with a small variation one way or the other, nine weeks before she whelps. No special attention need be paid to her for half that period, beyond keeping her in good condition and in hard work. As her time draws near, all violent exertion should be dispensed with ; although gentle exercise is essential to her health and to that of her puppies. A few days before the date of whelping, it is advisable to keep her on laxative diet, and to give her a dose of olive oil, which will materially assist her through her troubles. The quarters in which she is to produce her young should be prepared in good time. All that is required is to give her in some secluded corner, a good bed of straw on a board flooring. As it is the instinct of the bitch to scrape away her bedding until she gets down to the floor, it is evident that boards will be the best thing to have under her. When she is put on the straw, she will turn round and round until she forms a perfect nest for her offspring.

When the whelps are due, the bitch should be left in quietness and alone, except that the owner or attendant should, as quietly as possible, look in every now and then to see that nothing untoward is happening. An ample supply of fresh cold water should be placed within her reach. That accurate observer "Idstone" ascribes the tendency of some bitches to kill and eat their young, to thirst. The membranes, I may

mention, come away at the same time as the pups. There is an interval, usually, of about twenty minutes between the pups. It is the safest plan, as each one is dropped, to remove it from the mother, clean and dry it, and keep it in a warm place, until the litter has been whelped, when the pups should be restored one by one to the bitch. When the puppies are born, plain gruel is the best thing to give the mother. Meat and other heating food are unsuitable at that time. If, however, she appears much exhausted, an egg beaten up in half a glass of port wine will be found to be an excellent stimulant for her. By means of milk and soup, the bitch may be brought on to her usual food. She should be carefully exercised.

Cases of superfœtation may occur in which the second delivery may take place a week or ten days after the first one. Abortion is uncommon in the bitch, except among pets and fancy breeds, especially Japanese dogs.

Rearing and Bringing-up Puppies.—The litter, as a rule, will number about seven; although an ordinary bitch will not be able to do full justice to more than four. The others may be drowned or put to a foster-mother, who would also be necessary in the event of the mother dying. Mr. Vero Shaw states that a milch-goat will make a capital foster-mother for the larger varieties of dogs. All that is needed, is to put the goat on her side, secure her legs, and introduce the motherless bairns in couples to derive their nourishment from her. When the requirements of the youngsters are satisfied, the goat is returned to her stable or paddock, and the puppies

are cared for by some fostering hand. When the pups are with the mother, they should get fresh cow's or goat's milk, as soon as they can lap it. "Idstone" advises that when they are five weeks old, they should be separated from the mother for a couple of hours at a time, so that she may not become wearied by them.

During parturition, needless interference is to be deprecated. When, however, the expulsive efforts of the bitch fail to make progress, mechanical assistance, judiciously rendered, may often save the life of a valuable animal. Natural presentation of the first pup is usually head first, but subsequent ones may present the breach. As often as not they come alternately. Natural labour pains may bring a pup to a position in which but very little assistance from outside will succeed; but some labours are impracticable, and, except in the larger breeds, the accoucheur may be able to render but very little assistance. One of the best and ever-present instruments is a button-hook, and, if this can be pushed into the mouth of the fœtus, delivery may be effected with more or less injury to the newcomer. If a noose can be got on to any part of the pup, and gentle traction exerted, the efforts of the dam will generally succeed in overcoming the difficulty.

Syringing with glycerine and warm water is a great help in *dry* labours, as it supplies the place of the natural "waters" to a great extent, and renders the passage more easy. If the labour is prolonged, a few drops of Jeyes' Fluid may be added to the glycerine injection to prevent septic matter being generated.

Worms are troubles which almost all puppies have to contend against. There need not, however, be much fear of losing youngsters from this cause, if, when they are about seven or eight weeks old, they are given a dose of areca nut (*see* page 93), or of Spratt's worm medicine.

The puppies may be weaned when they are about six weeks old. Until they are, say, six months old they should get no meat, except an occasional bone; their diet being rice, oatmeal, or biscuit with milk, or a little soup and vegetables. Spratt's Patent Puppy Food is an excellent preparation for the weakly ones. Every care should be taken of the weaned puppies, and they should be protected from damp, the hot rays of the sun, cold draughts, and dirt, which are frequent causes of canine mortality. They should be given plenty of fresh air and exercise, without which they will not develop into well-grown dogs. As with adults, so should we prevent the puppies from being exposed to the fierce mid-day heat. We should remember that nothing is more prejudicial to the health of young dogs than a gloomy prison-house. The use of the chain, which is a barbarous infliction, helps to produce stunted frames, weak constitutions and rickety limbs. Too much attention cannot be paid to cleanliness.

Many owners are unaccountably neglectful of the means by which the young dog becomes properly developed. It is certain that an ill-reared pup will grow into a worthless dog. The puppy that is not worth attention, is not worth keeping. A frequent mistake among dog fanciers is rearing a greater

number of youngsters than they require or can sell. Consequently the kennels become crowded and its residents become deprived of that care and attention which is indispensable to the production of a good dog.

Education of the Young Dog.—However important the breeding and kennel management of a young sporting dog may be, his usefulness in the future depends still more on his breaking. The most eminent field trial performer which has ever appeared, Mr. J. Cumming MacDona's Ranger, belonged to the plain division. We may, therefore, conclude that the possession of good manners (the result of education) is sometimes more valuable than that of good looks. Every dog should be taught to come to his master when called by name. If he be required as a companion, he should also learn to depart from, for instance, the room, and to go to "heel" when ordered. He may be taught to fetch, carry, and, if ordered, drop the object taken up. The fetch-and-carry trick has, however, the drawback that, when acquired, it may make the animal an intolerable nuisance from his eagerness to "show off" as a performer. Its practice is also injurious to his teeth. The following is the method used by professional dog trainers to teach their pupils various "acts," and is the quickest and most certain one that can be employed. Put a strap or collar round the animal's neck and attach a cord to it. While holding the cord, go two or three yards away from the dog, and say "Come!" "Here!" or any other word by which you wish him to understand that you order him to come to you.

As he will not, at first, grasp your meaning, give a sharp jerk to the cord, a second or two after you have uttered your command. Repeat the operation until the dog, as he will quickly do, learns to connect the sound of the order with the pain of the jerk; when, to escape punishment, he will come towards you immediately he hears the selected word. As soon as he does this, "make much" of him, and thus, by reward on one hand, and punishment on the other, he will be taught discipline in the most effective manner possible. While imparting the lesson with the cord, the instructor, until he has obtained obedience, should give the order and jerk with the impassiveness of a machine; for any exhibition of temper or weakness on his part, will lessen the moral effect of his teaching. The moment the dog obeys, no restraint need be put on one's show of affection: but not till then. To increase, if necessary, the punishment, instead of a strap or regular collar, the end of the cord made into a loop which will not run, may be passed round the neck. In the same way, we may cure a dog of being "gun-shy," make him go to heel, and teach him various tricks. The lessons should not be so long as to make the pupil tired, inattentive, or sullen. On the contrary, we should try to have him in a good humour, when we leave off, so that he may take a pleasure in learning. In this, we should, as much as possible, work on the animal's love of approbation, which is a highly-developed faculty in every dog, and should use punishment only when it is necessary. Prompt obedience is indispensable

in canine education. Hence, coaxing should form no part of the means taken to impart it. I need hardly say that both men and brutes will repeat an action which they have been induced to do by coaxing, only when it pleases them to do so. The only forms of punishment for dogs, at the hands of man, which I approve of, are the cord and the voice. The moral effect of the cord, by its exhibition of irresistible force, is much greater than its physical one. The dog is certainly not nearly so inclined to regard its infliction as a personal insult, as he would do the application of a whip or cane. I have often seen dogs which were disinclined to follow, or were apt to run home when taken out, spoiled by a thrashing, after suffering which, they were permitted to seek safety in flight. Such truants could be readily cured of their waywardness, by being taken out, and instructed with the cord. Feeding a dog oneself and keeping him by one, will help to win his affection and obedience. The ability to recognise who is his master appears to be possessed by intelligent dogs, which will generally pay more attention to him, than to the servants who feed them. Possibly the fact that the owner is the person who takes them out, has a good deal to say to their display of affection.

We may make a dog fetch, carry, and drop the object he has in his mouth, by rolling a soft ball and getting him to play with it, and to lift it up in his mouth. Or we may use a piece of raw meat too big for him to swallow. To teach him to let it go at word of command, we may, while holding him, say,

“Drop it!” and then press our fingers against the cheeks of his mouth, until he opens his jaws and lets it go. The moment he does this, we should pat him and make much of him.

In entering a young dog, such as a terrier, to vermin, care should be taken that he does not get mauled, or frightened by having been set too big a task at first. His powers should not be fully tested before he has gained confidence and experience.

The Management of Fox-hounds.—As a rule, the experience of Indian sportsmen is that fox-hounds cannot live continuously in the plains, and that the only way to save their lives is to take them to the Hills every hot season. Even the majority of those who do not go as far as this, will assert that, if kept in the plains, hounds will lose their “nose” (sense of smell). Although we must admit that a tropical climate has a bad effect on the health of either Englishmen, or English dogs, the fact remains that the terrible mortality which occurs amongst both in hot climates is chiefly due to violations of hygienic principles. Nose is almost entirely a question of health, and is intimately connected with that of “dash,” which is the distinguishing characteristic of fox-hounds, as compared with other breeds of dogs. When they suffer from debility and lassitude, they naturally lose their dash, and have but little or no nose. Mr. Rowland Hudson, who used to hunt the Mozzufferpore and Otter hounds, kept his pack in good health and heart for some years, without having had to send them out of Tirhoot. I shall, therefore, follow his lead in the special remarks I

shall now make on the management of fox-hounds, to which the general observations already made in this chapter, apply equally as well as they do to other imported dogs.

As a pack cannot conveniently be washed with the same care as single dogs, and as they are liable to suffer from the injurious effects of chill when the air is cold, it is well to wash fox-hounds only during the hot weather.

The results of experience teach us that the cause of the great mortality among hounds in India, is their being worked when they are out of condition. It should be a maxim with every careful M. F. H. that if any hound is "unfit," he should be left in the kennel.

Although rice is the usual food for dogs in India, it should not form the staple ration of fox-hounds; as it is too bulky for dogs which are fed only once a day. If used in this way, it would overtax the stomach and intestines by causing undue distension, and would be apt to induce diarrhoea. Scotch or English oatmeal is good; but the Indian product, from defective preparation, contains too large a proportion of irritating particles of husk, which are very liable to cause digestive trouble. An excellent food for hounds is 1 lb. biscuit (ship's or Spratt's); 1 lb. of meat without bone; $\frac{1}{4}$ lb. rice; and some vegetable, such as cabbage leaves, turnips, or carrots. Ship's biscuits answer their purpose admirably. They cost about three-halfpence a pound. The meat may consist of horseflesh or butcher's scraps. The water in which the rice is boiled should be poured off; as it is apt, if given, to

cause constipation. No bones should be allowed in the food; for hounds may injure themselves by "bolting" them, and will be induced to fight for their possession. Some large bones which are too big to swallow, may, with advantage, be given to the hounds to gnaw on the grass in the sun after feeding. A hound may get a drachm of sulphur every four days. Mr. Hudson advises that each hound should get 5 drops of liquor arsenicalis daily for a week, every six weeks. The arsenic is good for the skin and is a preventive to fever. The huntsman should remember that when the administration of this drug is continued too long, it causes irritation to the bowels, and makes the gums abnormally red. It should, of course, be discontinued as soon as these symptoms become apparent. The hounds should be fed once a day at about 10 o'clock in the forenoon. About a month before the hunting season commences, the hounds should, before exercise, have their feet bathed daily in a strong solution of salt and water. This may also be done after hunting with any hounds that are at all footsore. If there be symptoms of liver disease, as may be indicated by yellowness of the mucous membrane of the eyes and mouth, we may give, on an empty stomach, once a day, as may be required, 10 grains of ipecacuanha, in two pills made up with, for instance, bread. The master should see the hounds fed every day, and should draft in the slow and dainty feeders, and the very hard workers first. We all know that this is the proper routine to follow; but it is one of those essential details which servants will sometimes neglect.

As hounds stool after feeding, the careful master will observe if the dung of delicate or ailing hounds is wanting in bile, is mixed with blood, is too loose, contains worms, etc. I may remark that hounds, like other dogs, frequently get piles from liver derangement. We should not mistake the bleeding from these congested vessels, for that of dysentery.

In the evening the hounds should have a quiet stroll for about half an hour. At this time they are not fit for hard exercise, as their bellies take a long time to get empty. We should remember never to overwork or to keep hounds out too late: certainly not longer than half-past nine, even in the coldest weather. On this point, the master should be inflexible. If any hound looks jaded, he should be left behind in his kennel.

I need hardly remind my readers that the remarks here made on the hours for feeding and work, apply only to foxhounds in the tropics, and that these animals, in England, commence business usually about eleven o'clock in the forenoon, and are consequently fed in the evening.

Shipping Dogs.—There are a few precautions that should be taken by those who are entrusted with the duty of shipping dogs for a long voyage, in order to ensure the animals' safety and comfort during the journey. In the first place inquiries should be made—unless of course the animal is to be met upon his arrival at his destination—as to what accommodation can be afforded him by the agents of the shipping company. In some places, such as Australia, every imported dog is sub-

jected to a long and rigorous quarantine in order to avoid the introduction of rabies into the country ; but even then it is well to try and arrange for some reliable person to look after the animal upon his arrival.

For his accommodation on board ship a good substantial kennel fitted with a canvas blind should be provided, and a bag of biscuits and a little flowers of sulphur may be sent along with him. It usually falls to the lot of the ship's butcher to look after the wants of the canine passengers, and for the most part the men perform their duties well. The payment of a *douceur*, and the promise of a further present if the dog reaches the end of his journey in good health, will almost invariably ensure his being well looked after during the voyage : money thus spent is assuredly well laid out. The use of the canvas blind for the kennel is that it can be let down over the entrance during bad weather at sea, as it frequently happens that the dogs are berthed in somewhat exposed positions on board.

When it is desired to avoid trouble, and also, in the majority of cases under ordinary circumstances, it is a good plan to entrust the shipment of dogs to Spratt's Patent, who undertake the duty at a very slight additional expense beyond the actual money out of pocket. Being thoroughly accustomed to their work, the representatives of the firm know every detail of the business, and time and trouble are both saved by placing the matter in their hands ; whilst in many instances increased comfort is afforded the dog.

PART III.

MEDICAL TREATMENT OF DOGS IN HOT CLIMATES.

MEDICAL TREATMENT OF DOGS.

CHAPTER I.

MEDICINES.

Securing the Dog.—To catch hold of a dog so that he may not bite the operator, French veterinary surgeons use a kind of pincers with handles from 2 to 3 ft. long, and with semi-circular claws of such a length that they will just encircle the animal's neck. For closing his mouth Mr. Leeney recommends "a long narrow strap, which should be placed on his face, crossed below his jaw, and buckled behind his ears." This gentleman states that "to keep a large dog down on the ground, it is a good plan to attach 3 or 4 ft. of rope to his collar and pass it twice round the hind leg that is uppermost, in the hollow just above the hock, pull it well forward, and attach it again to the collar." I like to use a piece of broad tape, which I tie under the jaws and again behind the ears. To spare the dog's feelings, his master should neither assist in nor be present at any painful operation.

Giving Medicines.—If possible, the dog should be induced to take the physic himself by disguising it in soup, butter, treacle, honey, etc., or by putting it inside a bit of

meat, and by getting him to catch and swallow it. In the former way, we may induce him to take various kinds of oil, syrups, various solutions (such as that of Fowler), areca nut and other powders which have not a particularly disagreeable taste. By the latter method, pills, etc., may be got down.

When the animal will not voluntarily take the medicine, we may give it by the mouth, by hypodermic injection, or as an enema. It is forcibly administered through the mouth, by pill (or bolus), or as a drench. I here use the word, bolus, to signify a softer and larger mass than an ordinary pill. Small gelatine capsules are very useful for giving medicine.

Electuary (*i.e.* something to be licked) is the term applied by chemists to a soft mass, in which the powder or other kind of physic is mixed up with honey or treacle.

In giving the pill or bolus, the dog, if he be small or very quiet, may be placed between the knees; the mouth opened; the medicine put far back on his tongue; the mouth closed, and kept so, with the nose raised, until the mass be swallowed. With a big or savage dog, two towels may be employed; one to raise the upper jaw; the other to depress the lower jaw without incurring the danger of being bitten. As an extra precaution, we may neutralise the defensive or aggressive action of the animal's paws by swathing his body and legs with a sheet or other kind of bandage. In giving a drench, secure the dog as before directed; keep his mouth closed and his nose raised; draw outwards the corner of one side of his

mouth, so that the lower part of the cheek will form a pouch, into which pour the medicine, a little at a time, as the dog swallows it. If he resists, we should increase our stock of patience, diminish the quantity of fluid given at each time, and let him recover his breath and composure before another dose. In all cases, we should be careful not to interfere with his breathing by pressing on his nostrils.

Hypodermic Injections.—Although hypodermic injection are frequently used in horse and cattle practice, they are not much employed in dog treatment. The only medicines we need consider in this connection are morphine and atropine; the former being one of the active principles of opium; the latter, the active principle of belladonna. They are given dissolved in from half to one drachm of water. The hypodermic syringe consists of a graduated glass tube, to one end of which is attached a piston; and to the other end, a hollow needle through which the injection is made. The instrument should be kept scrupulously clean; for if it be used in a dirty state, a painful tumour will be liable to form at the point of puncture. To make the injection, the required amount of fluid is drawn into the tube; a fold of loose skin at any convenient spot, is taken between the fore finger and thumb of the left hand; the point of the needle is inserted below the left thumb and parallel to the surface; and the head of the piston is pressed down by the thumb of the right hand.

Sick Diet.—It is, of course, absolutely impossible to lay down any hard-and-fast rules for dieting canine patients. Certain

diseases require one scale and others something totally the reverse. There are, nevertheless, a few things that are almost always prescribed, and of these beef-tea is perhaps the most common, and most efficacious. Now when a dog is so reduced in health as to be recommended beef-tea, and is also sufficiently valuable, or valuable as a pet, to be provided with the same, it is just as well for the sake of all parties that the stuff should be properly made. To commence with, every bit of fat should be cut off the meat, which should then be cut into dice-shaped pieces about half an inch or less in length, breadth and thickness. It should be soaked for a couple of hours in cold water to which a little salt has been added ; for albumen is soluble in cold water, but is coagulated by heat. If there is an oven at work handy, the meat and water should be placed in a stone basin, or better still a clean pickle-jar, and left there for a couple of hours, at least, to stew. The water should cover it, if in a pickle-jar, for about 3 inches. When some of the contents is poured off for the dog's consumption, a little more water may be added to the pieces, which may be left to brew for some three or four hours more ; and so on until all the essence is exhausted, when a new supply of meat must be provided. The beef-tea thus made is absolutely the best that can be extracted, and the absence of grease makes it more palatable, if beef-tea ever could by any possibility be palatable, to both man and beast.

Fresh, raw, lean beef is often taken and digested when all

other forms of food are rejected. It is a very valuable regimen in many cases of illness. Bullocks' heels boiled for a couple of hours in a *little* water and then chopped up with the liquor, will often be taken by a sick dog when other food is rejected. When cold, this forms a jelly which most canine invalids are unable to refuse if placed before them in small quantities. Fish is, of course, a difficult thing to obtain in many places; but when it is to be had a capital stew can be made of the heads, especially those of haddocks, which when given cold as a jelly—the bones having been extracted—is greedily eaten by some dogs. In cases of distemper we have tried this diet with excellent results, and therefore allude to it here.

Pearl barley, well boiled with such things as bullocks' windpipes, sheeps' tails or such like, well chopped up, and with some orange juice added after cooling—just to produce a flavour of tartness and counteract the greasiness—will often tempt many a shy feeder to eat; whilst rice and gravy will frequently produce a similar result. Some dogs are very fond of eggs, and will eat them in any shape, in fact, certain canine *gourmands* of our acquaintance rather prefer the stale ones to the fresh under ordinary circumstances. At all events when an animal's strength has run down, or he cannot swallow, or make up his mind to eat, he may be drenched with a raw egg either "neat," or beaten up with milk, or a very little port wine or brandy. The latter are the two best alcoholic beverages for a dog, unless he suffers from kidney trouble,

when gin or hollands may be substituted ; but it is a mistake to give him them in big doses. Of course circumstances alter cases, and must be left to the experience and discrimination of those responsible for his treatment, but we have found little and often, say a dessertspoonful every three or four hours, achieve better results than a larger quantity administered at longer intervals.

The Value of Disinfectants.—No sensible person neglects to wash his hands after he has been tending a sick animal, and even putting altogether on one side the risks of his carrying a disease to other creatures, the dictates of ordinary cleanliness demand that he should do so. In cases of contagious complaints it is desirable that a little disinfectant should be added to the water he uses ; but it becomes imperative that the premises should be disinfected by some effective means. For washing the hands or disinfecting the animal's skin, we may use Wright's Tar Soap, Jeyes' soap, strong carbolic soap ; or a solution of 1 part of Jeyes' fluid, carbonis detergens liquor, phenyl, or carbolic acid, in 30 parts of water. For purifying the premises we may employ the same solution, or, for cheapness sake, one of a pound of sulphate of iron in a gallon of water.

Nursing.—In the case of most sick animals, their chances of recovery are greatly increased by the amount of intelligent nursing they receive. A fussy, bustling attendant worries and upsets the invalid, and the presence of a stranger about them frequently leads to bad results. To

begin with, therefore, it is always desirable that the person who usually feeds them should, if possible, be intrusted with their nursing. The abode of the sick dog should be dry, and well ventilated. In a cold climate he should be kept out of draughts; but in the tropics, a fresh breeze will generally be most grateful to him. Most canine invalids shun the light, especially if seriously ill; but although the partial exclusion of this is consequently desirable at times, it becomes too expensive a luxury if it is obtained at the cost of proper ventilation. In hot climates sick dogs suffer fearfully from the heat during the day, but those left in charge of them should bear in mind that often of a night it turns very cold, and that precautions should be taken to keep the kennel at as equal a temperature as possible throughout the twenty-four hours.

When water is allowed the patient, as it almost always is, the supply should be constantly changed, and the vessel it is placed in must be perfectly clean. At the best of times, it is a shame to expect a dog to drink out of a greasy, dirty trough, and when the poor creature is sick, or in suffering, it becomes positive cruelty to place anything but the purest water before him. As a rule the keeping of his bed in order will not be a matter of difficulty, for most dogs will do their best to avoid fouling their nest, and will struggle at the cost of great suffering to another part of the kennel before relieving themselves. A careful attendant will, however, avail himself of the opportunity afforded him by his patient

getting up to shake up the bed and make the poor beast as comfortable as possible, thereby materially increasing the chances of recovery.

Above all things, especially in fever cases, the introduction of sympathising strangers—who know nothing of dogs or their treatment, but, who from feelings of curiosity or some such objectionable sentiment, beg to see the “poor creature,” and upset him by their visit—should be severely discountenanced. A skilful vet. will not remain a minute longer with his patient than is necessary, for he knows the dog resents his presence in the kennel, and, therefore, the chatter of the inquisitive means murder in many cases. Of course, all other dogs should be kept away, unless the invalid frets for a little society, and there happens to be a particularly quiet and gentle chum of his upon the premises. It is not often, however, that a sick dog does not prefer being left alone, but cases have been known where solitude has produced a lowness of spirits that has militated against recovery and retarded convalescence.

WEIGHTS AND MEASURES.

WEIGHTS.

There are 7,000 grains in a pound of 16 ounces. A scruple is taken as equal to 20 grains, and a drachm, as equal to 60 grains; but we must remember that they are not respectively equal to $\frac{1}{24}$ and $\frac{1}{8}$ to the ordinary (avoirdupois) ounce of commerce. The French gramme is equal to $15\frac{1}{2}$ grains (nearly).

COINS AS WEIGHTS.

Approximatively, a crown-piece or four sovereigns weigh an ounce; a penny a third of an ounce; and a farthing, a tenth of an ounce. A penny weighs three grains less than 10 grammes. Two rupees and eight annas in silver weigh a trifle over one ounce.

FLUID MEASURES.

60 minims	...	...	...	=	1 fluid drachm.
8 fluid drachms	...	...	...	=	1 fluid oz.
20 fluid ounces	...	...	...	=	1 pint.
8 pints	...	...	...	=	1 gallon.

A drop is often regarded as a minim; but this is not correct, as the former is a variable quantity; the latter, a fixed one. The size of a drop varies according to the nature of the fluid, the shape of the lip of the bottle, etc. As a very rough guide, I may say that:

1 teaspoonful	...	...	...	=	1 fluid drachm.
1 dessertspoonful	...	...	...	=	2 „ drachms.
1 tablespoonful	...	...	...	=	4 „ „
1 wineglassful	...	...	...	=	2½ „ oz.
1 small teacupful	...	...	...	=	7 „ „
1 large teacupful	...	...	...	=	12 „ „ (<i>Whitla.</i>)

An ordinary tumbler holds about half a pint; a large brandy - and - soda one, about a pint. A “reputed” quart bottle (like a sherry or large beer bottle) contains 1½ pints.

1 minim of water weighs	...	...	...	=	91 grains.
1 fluid ounce of water	...	...	...	=	1 oz.
1 pint „ „	...	...	...	=	1½ lbs.
1 gallon „ „	...	...	...	=	10 „

Doses according to Size — In this book I have taken the doses as those suitable for an adult terrier of about 20 lbs.

in weight. On this basis, we might make the following assumptions :—

Dose for a dog weighing 5 lbs.	=	$\frac{1}{2}$	} as laid down.
„ „ „ 10 lbs.	=	$\frac{3}{4}$	
„ „ „ 20 lbs.	=	same	
„ „ „ 50 lbs.	=	$1\frac{1}{2}$	
„ „ „ 100 lbs. and over	=	2	

Doses according to Age.

12 months old	...	...	...	...	full dose.
9 „	...	...	...	...	$\frac{3}{4}$ „
6 „	...	...	...	...	$\frac{1}{2}$ „
3 „	...	...	...	...	$\frac{1}{3}$ „
6 weeks old	...	...	...	...	$\frac{1}{6}$ „
4 „ „	...	...	...	...	$\frac{1}{8}$ „
1 week „	...	...	...	...	$\frac{1}{16}$ „

Effect of Medicines on Dogs.—As a rough approximation, I may state that ordinary medicines would have the same effect on a fairly large dog, say, one of 50 lbs. weight, as on a man, with the following exceptions. The dose of aloes for the dog would be about eight times as much, and that of spirits or turpentine, three times as little as that for the human patient.

Aloes is not a good general purgative ; for the stomachs of only few dogs can retain it. Aloes should not be used if the dog has piles, as its administration is apt to aggravate them. For a purgative, 15 grains of Barbadoes aloes may be given in a pill with a couple of grains of ginger to prevent griping, and a sufficiency of honey or soap. Instead of 15 grains of aloes, we may give half of aloes and half of jalap. If procurable, *aloin*, which is the active principle of aloes, is

preferable to aloes itself. Six grains of aloin would have about the same purging effect as 15 grains of aloes, and would be much less liable to produce untoward consequences.

Alum.—Water containing as much alum as will dissolve in it forms a good lotion for wounds. Alum placed on a metal or earthenware plate and put over a fire, loses its water of crystallisation, and takes the form of a white powder, known as *burnt alum*, which is an admirable application for drying and stimulating unhealthy wounds.

Areca, or Betel Nut, is the best all-round medicine for worms in the dog. Only sound nuts, free from weevil holes, should be used. They can easily be reduced to powder by a nutmeg-grater. The powdered areca nut which is sold by chemists should not be employed; for, when kept in that condition for some time, it loses its medicinal properties. The dose is 2 grains to each pound the dog weighs. The powder may be given at night, twelve hours before which the dog should have had a dose of castor oil, and should have been kept fasting till the following morning.

Boric Acid.—Water, with as much boric acid as it will take up, is an admirable antiseptic application for wounds.

Bromide of Potassium is a valuable nervous sedative. Dose, 10 grains.

Brandy. Stimulant.—Dose: a dessertspoonful, mixed with twice the amount of water.

Carbolic Acid.—For wounds, 1 part to 20 of oil, or 30 of water. Owing to the tendency dogs have of licking any-

thing applied to their skin or to wounds, we should be careful with them as to the external use of poisonous drugs such as carbolic acid, citrine ointment, corrosive sublimate, mercurial ointment, etc.

Castor Oil is a safe and mild purgative. It acts on the small intestine, and consequently requires the aid of enemas to help it to clear out the large intestine. It has no action on the liver. Dose, one tablespoonful.

Chloral Hydrate is a producer of tranquil sleep. Dose, 15 grains in a wineglassful of water.

Chlorodyne is an excellent agent for checking diarrhoea and for allaying the pain of colic. Dose, 15 drops in half a wineglassful of cold water.

Citrine Ointment (*nitrate of mercury ointment*) mixed with 5 parts of lanoline, lard, or soft paraffin, is an admirable application to inflamed skin, such as chapped teats, inflamed eyelids, and scabs. See remarks on "Carbolic Acid."

Cod Liver Oil is very useful as a tonic, and in bronchitis, cold in the head, and influenza. Dose, a teaspoonful three times a day.

Easton's Syrup is a good tonic composed of the phosphates of iron, quinine, and strychnine. Dose, half a teaspoonful three times a day, after feeding.

Epsom Salts (*sulphate of magnesium*) is an admirable purgative, which acts by drawing a large amount of fluid to the bowel in which it is present. It also stimulates the liver.

Dose, $\frac{1}{2}$ oz. in a tumblerful of water, given when the dog is fasting. Instead of a solution of Epsom salts, we may give with advantage 2 oz. of Friedrichshall's water or $\frac{3}{4}$ oz. of "black draught." The former consists chiefly of the sulphate and chloride of magnesium, and also contains other useful salts. The latter contains, principally, Epsom salts and senna.

Eucalyptus Oil is specially valuable from the fact that although it is a good antiseptic, it has hardly any irritative effect on the skin, mucous membrane, or even on wounds. In human practice, if rubbed a few times a day over boils which are forming, it will almost invariably abort them, so that they will disappear without leaving any disfiguring scar behind. As an antiseptic application to wounds or sores, this oil may be used plain, or with as much iodoform as will dissolve in it.

Fellow's Syrup is an admirable tonic, and is composed of the hypophosphites of iron, quinine, strychnine, calcium, and manganese. Dose, half a teaspoonful in water after feeding.

Friar's Balsam (*compound tincture of benzoin*) is a capital application to wounds. Water decomposes it, and consequently should not be added to it.

Iodoform is one of the best antiseptics to apply to either recent wounds or unhealthy sores. In its ordinary form of a yellow powder it may be dusted on the part, or may be used when dissolved in eucalyptus oil or turpentine, *q. v.*

Ipecacuanha is an emetic and has a well-marked action in allaying inflammation of the organs of breathing, and in causing a discharge of fluid from their mucous membranes. In

this way it is very useful in bronchitis, cough, etc., as an expectorant. It also acts on the liver. As it is an emetic it has often to be combined with opium, so as to enable it to be retained in the stomach. Doses, 5 grains of Dover's powder, which contains 1 part each of ipecacuanha and opium, with 4 parts of sulphate of potassium. A teaspoonful of ipecacuanha wine may be given.

Iron is a very valuable tonic in cases of debility, in which it increases the number of the red corpuscles of the blood and thus causes a larger supply of oxygen to be furnished to the tissues. I may mention that the red corpuscles absorb oxygen from the air which is taken into the air-cells during the act of breathing. As they pass along, with the remainder of the blood, through the various tissues, their oxygen combines with the waste materials absorbed into the blood-vessels from the tissues, and converts them into products, such as carbonic acid and urea, which can be easily eliminated from the system, by the lungs, kidneys, and other excretory organs. If iron be given in too large quantities, it will upset the digestion and general health, from its astringent properties. Being an astringent, it should not be administered in cases of liver disturbance. Doses, dialysed iron solution (this is probably the best preparation of iron) 20 minims; citrate of quinine and iron, 5 grains; saccharated carbonate of iron 10 grains. See, also, "Fellow's Syrup"; and "Easton's Syrup."

Jalap is a sharp purgative, which acts by the irritating effect it has on the bowel. See "Aloes." Instead

of the root, which is the usual form in which jalap is given, we may employ the less nauseating resin. Dose of the root, 12 grains ; of the resin, 3 grains.

Jeyes' Fluid is chiefly an alkaline solution of creosote. It is an admirable antiseptic and disinfectant. It combines with water in any proportion. It is an advantageous substitute for carbolic acid in applications to the body ; for it possesses all the good properties of carbolic acid, and its effects are far less irritating and dangerous.

Laudanum (*tincture of opium*) is useful in checking diarrhoea, promoting sleep, and allaying pain. Dose, 30 minims.

Lead and Opium Pill (dose, 5 grains) can be obtained from any chemist.

Liquor Arsenicalis is useful, like quinine, in warding off the attacks of fever (acting as an antiperiodic) ; in chronic skin diseases ; and especially in nervous diseases. As it is apt to have an irritating effect on the stomach, it should, as a rule, be given only after feeding. The most convenient form of arsenic is liquor arsenicalis (Fowler's solution), the dose of which is 5 drops, two or three times a day. There are 4 grains of arsenic in each ounce of this solution.

Liquor Potassæ is a caustic difficult of control ; as, when applied, it is liable to spread on neighbouring surfaces. It may be used for the removal of warts. It is applied externally, when properly diluted, in skin diseases for removing scabs and scales of skin, and for allaying the pain of itching.

Male Fern, Extract of.—Dose, 20 drops, which may be made up in an emulsion by a chemist; as the extract, when given pure, has a very irritating effect on the mucous membrane. Or it may be administered as a bolus tied up in a small piece of wet bladder. It should be given to the dog fasting, at night for example, and followed by a dose of castor oil next morning. In view of the tendency of the dog to reject it, his head may be tied up for an hour after swallowing the extract. Although from deference to the opinions of others I have mentioned this medicine, I do not advise its use; as dogs will seldom keep it down.

Mineral Acids.—This term includes sulphuric, nitric, hydrochloric, and nitro-hydrochloric acid. Internally they are very useful in fever and dyspepsia. In such cases, either dilute nitro-hydrochloric acid, or dilute hydrochloric acid is employed in doses of 10 minims freely diluted in water. They supply any deficiency there may be of acid in the gastric juice; they increase the flow of bile and saliva, and tend to restore the blood to a healthy condition.

Olive Oil is a capital laxative, especially in cases of constipation and piles. It is very safe in constipation, as it does not cause any violent movements of the intestines, or large outpouring of fluid into them. Dose, $\frac{1}{2}$ oz.

Perchloride of Mercury (*corrosive sublimate*) is the most effective of all antiseptics. It is deadly to all forms of life. A solution of 5 grains to the pint of water may be used for preventing recent wounds from becoming infected by putre-

factive germs. One of 5 grains to an ounce of water readily destroys most of the skin parasites.

Phenacetine is an admirable drug for reducing excessive temperature in cases of fever. Unlike antifebrin and antipyrin, it accomplishes its purpose without injuriously affecting the health or strength. It is a white tasteless powder which is insoluble in water. Dose, 5 grains every four hours. Its administration should be regulated according to the state of the temperature.

Port Wine.—Good stimulant. Dose, half a wineglassful.

Quinine, Sulphate of.—This is the most valuable medicine we have, for preventing or curing attacks of malarial fever. It appears to act by the antiseptic effect it has on the disease germs in the system, when it becomes absorbed into the blood. Before giving quinine, it is well to open the bowels by means of a saline purge (*see* "Epsom Salts.")

Salicylate of Sodium is the best remedy we have for rheumatic fever. "Whilst it is invaluable in its speedy and certain relief of pain and fever heat, it nevertheless does not appear to cut short the real duration of the attack. Pain and fever will return if it be withheld, but will yield again on its administration." (*Whitla.*) Dose, 15 grains dissolved in water. It should be repeated as may be required.

Salammoniac is useful in bronchitis and chronic congestion of the liver. Dose, 10 grains.

Salt, as an emetic, may be given to the amount of a teaspoonful dissolved in half a pint of warm water. To this, a quarter

of a teaspoonful of mustard (dry) may be added with advantage.

Santonine in doses of about 3 grains is as effective for the removal of round worms, as is areca nut for that of tape worms. It may be given with castor oil, or with calomel.

Sherry.—See “Port Wine.”

Silver, Nitrate of.—This (*lunar caustic*) is the most useful caustic for dogs.

Whisky.—See “Brandy.”

Turpentine, Oil of.—Undiluted turpentine is a capital application to unhealthy wounds. In ordinary cases, it is better to combine it with as much camphor as will dissolve in it. To this, 1 part in 10 of iodoform may be added.

CHAPTER II.

SKIN DISEASES.

FLEAS—TICKS—LICE—ORDINARY PARASITIC MANGE—FOLLICULAR MANGE
—ECZEMA—RINGWORM—WARTS—BOILS AND ABSCESES.

Fleas.—The presence of fleas in the coat of a dog should not be tolerated; for they are not alone a source of irritation, but are, in some instances, carriers for the embryos of tape worms. (See page 129.) They may be removed by the use of insect powder, which may be rubbed into, or blown upon, the skin by means of a specially-made bellows. Or the flowers of sulphur may be employed for the same purpose. We may also get rid of them by washing the dog, as often as may be required, with tar soap, Jeyes' soap, or Spratt's dog soap. A solution of 5 grains of corrosive sublimate to a pint of water, is a capital application for the destruction of insects on the skin of a dog; but, as it is a poison, it should be used cautiously. The use of carbolic soap on the skin of this animal cannot be recommended; as the carbolic acid is liable to set up symptoms of poisoning from absorption. Mr. Dalziel recommends "a strong infusion of quassia, made by suspending a couple of ounces of quassia-wood chips, tied in a piece of muslin, in a bucket of water, for two or three hours, occasionally stirring

it, as useful in killing fleas ; it is free from danger, and being almost colourless is an advantage in washing white dogs. The infusion must be used instead of plain water with either soft soap or curd soap, a good lather being made to penetrate the dog's coat to the skin." In default of these agents, we may apply cocoanut oil, fish oil, linseed oil, chaulmoogra oil, or any other bland oil. The contact of oil, I may observe, kills insects by closing the pores of the skin, through which they breathe, and thus induces death by suffocation. The efficacy of any of the oils just mentioned, may be increased by mixing with it, say, one-fifth part of eucalyptus oil. We might employ (with due precaution as to absorption) a decoction made by boiling 2 oz. of tobacco in a quart of water. The use, as bedding, of pine shavings, or of straw or shavings through which a little turpentine or eucalyptus oil has been rubbed, will keep away insects. The flooring, woodwork, etc., may, with advantage, be washed with boiling water, or with water containing 10 per cent. of carbolic acid, phenyl, or Jeyes' Fluid. As the smell of tar will drive away fleas, but will not injuriously affect the dog, it would be well to give a coating of tar to the woodwork of the kennel. The fact of fleas and other insects breeding in sand and dust, indicates the advisability of removing out of the dog's abode all such accumulations.

In tropical America (North and South), a kind of flea, called the *chigoe*, is a great pest to the dog. The egg-bearing female of this insect burrows into the skin, especially about the feet

and ears, and leaves her eggs in the attacked part, which, consequently, will soon suffer from the effects of severe inflammation. Deep, suppurating wounds may ensue, with the loss, in some cases, of one or more of the toes. For protection to the feet, the toes may be kept smeared with almond oil, or, better still, with eucalyptus oil. For treatment, the egg-sac may be carefully opened with the point of a needle, so [as to let the eggs escape without gaining access to the neighbouring tissues, in which event, they would set up fresh inflammation. We may rub freely into the part, eucalyptus oil, or a solution (saturated) of camphor in turpentine. The application of mercurial ointment or of dilute citrine ointment (ointment of the nitrate of mercury) would be very efficacious ; but the use of either of these compounds of mercury is dangerous, as they are liable to salivate the dog.

Ticks.—Disinfect kennel as in the case of fleas (*see* page 102); taking care, as Neumann remarks, to clean and disinfect the ceiling, upon which ticks are liable to congregate. When they gain access to the coat of the dog, they hold on to the skin with their mouths and fill themselves with blood. They may be induced to let go their hold by the application of a little kerosene oil or turpentine. Or we may remove them gently by the hand, or may cut off the body close to the head. All the removed bodies should be destroyed by, for instance, throwing them into the fire, or into boiling water ; for such ticks may contain eggs. The presence of ticks, apart from being disagreeable, is not of much injury to the dog.

Very small ticks (say, from $\frac{1}{20}$ to $\frac{1}{40}$ inch in diameter), called *harvest bugs*, *red fleas*, etc., often cause much irritation to dogs. Treat as before described.

Lice often attack long-haired dogs ; but seldom short-haired ones. Treat as for fleas. See remarks on the Dog Louse, page 129.

Ordinary Parasitic Mange.

BY MR. HAROLD LEENEY, M.R.C.V.S.

Mange is a skin disease due to the presence of minute parasites, and is divided into two principal kinds, namely, the Sarcoptic and Follicular. The former is the most common, both in India and in temperate climates. *Sarcoptes canis* is nearly allied to the itch of man, the mange of horses and cattle, and the scab of sheep. It cannot arise spontaneously, or as the result of bad living and insanitary conditions ; but all the world over it is found to affect dirty and ill-cared animals more readily than the sound and thriving. Dogs are more liable to mange than horses, as their movements are not always under control to the same extent, and mange may result from salutation in the bazaar, or wherever a mangy mongrel has recently rubbed himself. The female parasites make tunnels in the skin, and lay an egg every day, each egg being more distant from the surface than the last, but so timed as to reach the outside when ready to be hatched. The irritation caused by the presence of mange mites produces a discharge of serous matter, upon which the parasites live. The males are to be

found only on the surface, and it is customary in doubtful cases to scrape a little of the surface skin, and examine it under a low magnifying power, when the parasitic nature of the disease can be settled beyond all doubt. The thinner portions of skin are those first chosen, as about the elbows and face, but the invasion is so rapid that scarcely a sound piece of skin may remain in a week. The intolerable itching causes the victim to rub, scratch, and bite himself, and produce painful sores. The skin falls into wrinkles, becomes everywhere thickened, and a watery, straw-coloured fluid is constantly exuding, giving off an offensive odour.

Treatment.—Sulphur has been known for ages to be a specific for sarcoptic mange. It destroys the parasites, and, the cause being removed, the effect ceases. Sulphur needs, however, to be applied with some penetrating adjunct when mange has once got a strong hold, and many persons use paraffin, oil of tar, turpentine, and other *media* for conveying it to the under skin, in order to reach the pregnant females, who are the chief causes of irritation. The following will be found an effectual combination :—Sulphur flowers, one part ; common oil of tar, one part ; and any seed oil or salad oil, five parts. This should be applied at intervals of three days, and no part of the dog should be omitted. A bath between the applications, using plenty of soft soap, will facilitate the action of the remedies by lifting the outer layer of skin. When the parasites are assumed to be all killed, it may be well for the dog's comfort to give a bath with a fluid ounce of glycerine to

each gallon of water, or smear him over with vaseline or olive oil. Unless mange is of long standing, or great debility produced, no internal medicines are required.

Follicular Mange.

BY MR. HAROLD LEENEY, M.R.C.V.S

This form of mange is slow and insidious in its invasion, and seldom attracts attention until it is thoroughly established, as it does not produce the intense irritation that accompanies common sarcoptic mange.

It is almost confined to a line drawn from the poll to the tail, and extending two inches at most from the spine laterally, or that part of the skin in which grow the erectile and coarser hairs that are elevated when a dog is angry. The hair follicles or glands are in this position larger than on other parts of the body, and therefore afford a convenient site for the parasite, which is much larger than the sarcoptic mange mite, and is in the form of a grub (*Demodex folliculorum*). A few broken hairs about the withers, unheeded for a long time, may be all that is seen during the warm months of the year; but next season the hair breaks and falls out, the parasite invading the parts mentioned both towards the head and tail, and some amount of irritation being shown; enough perhaps to make the dog rub his back under convenient rails and furniture. If treatment is not adopted, many of the hair bulbs are permanently injured, and baldness results, in the

thickening of the skin in which the parasites find a permanent home.

Treatment.—The hair should be closely clipped with a horse clipper all over, and somewhat beyond the affected parts, and soft soap rubbed in and allowed to remain for a night, washing it thoroughly with warm water next day, or a strong solution of common soda may be used ; the object being to remove the scarf skin, as otherwise the parasite cannot be got at, so deep down is he in the hair follicles. An effectual application is found in equal parts of turpentine, oil of tar, and olive oil. Very heroic remedies have been advised for this affection of the skin, under the impression that the parasite offers as much resistance to drugs as a tick, but it is quite unnecessary to apply anything stronger than the above. The demodex folliculorum is easily enough killed, but nothing will destroy the eggs, and further application must be resorted to when they have developed, and without giving them time to propagate. There is reason to suppose that some eggs remain from the autumn of one year till warm weather recurs the following summer in England ; but continuous treatment for two or three months in hot climates may be expected to result in the extirpation of the parasite. The application should be employed once a week.

Eczema.

BY MR. HAROLD LEENEY, M.R.C.V.S.

Eczema is often confounded with mange, especially under the name of "red mange." It is a common result of bad

feeding. It is said to be particularly frequent in South Africa from the practice of giving dogs an exclusively biscuit diet. A long continuance in any one kind of food may be the cause of eczema, which frequently requires nothing more for its cure than a sudden and complete change of diet from whatever may have been the staple food. The nature of the eruption cannot always be decided when of some duration, as the scabs and sore patches with a moist discharge much resemble those of mange, and often there is great irritability. If a new patch is observed it will be seen to be first red, and in a day or two a crop of minute bladders (vesicles) follow, which break, and, coalescing, form a sore surface with a waxy-looking scab. The nude parts are the first, and often the only ones affected; but in cases of long-standing, the hair comes off all over the body, and red pimples cover the animal—a *capite ad calcem*. These chronic cases of eczema are commonly called “red mange,” but are not parasitic in their origin.

Treatment must be local as well as constitutional. Raw meat may be given to a biscuit-fed dog, and the flesh-fed animal deprived altogether of his usual food. Among puppies the drinking of cows' milk on a liberal scale is a frequent cause of eczema, as also of round worms. It should always be scalded if pups are to be brought up on it, but is never the drink for dogs. It is supposed that in eczema an acid condition of the blood exists. I cannot say whether this is so or not in so intractable a disease in man; but in dogs it is usually amenable to treatment by giving antacids, as ten to thirty grains

of bicarbonate of potash or soda daily. A very good mixture for eczema is the following :

Sulphate of Magnesia $1\frac{1}{2}$ drams.

Bicarbonate of Potash $1\frac{1}{2}$ drams.

Syrup Buckthorn $\frac{1}{2}$ ounce.

Water added to 3 fluid ounces.

A tablespoonful of this morning and night for a terrier, or double the quantity for a large dog.

To allay the acute irritation of the skin and secure rest for the patient, zinc ointment or calamine may be used, and if nothing else is at hand, flour dusted over the abraded surface with a kitchen dredger is grateful to the skin. Lanolin is perhaps the most mollifying agent we can name, but is not everywhere obtainable, and should be softened with an equal weight of olive oil before being applied. The subject of eczema should be provided with soft bedding, which should be washed frequently. He should also be compelled to take exercise, however unwilling.

Ringworm.

BY MR. HAROLD LEENEY, M.R.C.V.S.

Is a troublesome skin disease, which often shows itself in circles, but is not due to a worm. It is a vegetable fungus and may occur on any part of the body, but more often on the face and feet. Rats and mice are frequent subjects of it, and in dogs of the terrier class it is often contracted on the

parts named as being those most in contact with their quarry. Elevation of the hairs is the first thing observable, but itching is not a conspicuous symptom at first; hence the liability of considerable invasion of the skin before the disease is detected. The hair presently falls out, and an ever-widening circle of baldness proclaims the nature of the disease, if new patches do not soon make themselves seen. Though ringworm is often a tedious matter with children, we have seldom any difficulty with our friend the dog, who needs only to have the infected areas thoroughly washed with soft soap, and afterwards anointed with nitrate of mercury ointment. This should be done at intervals of a week to avoid the possibility of absorption and salivation, and between the applications of ointment the parts should be once painted with tincture of iodine. Chrysophanic acid ointment is almost in as much favour for the purpose.

Warts

may be removed by the application of lunar caustic, any strong mineral acid (such as nitric acid), or by the knife or scissors. If they be attached by a well-defined stalk or pedicle, the neatest way is to tie it round tightly with a piece of silk thread or horsehair. If on tender or easily-injured spots, carefully apply liquor potassæ or acetic acid. A saturated solution of washing soda in water, applied four or five times a day, for a few days, is safe and useful.

Boils and Abscesses.

These affections are not at all as frequent in the dog as in human beings. On the first appearance of a boil the best *treatment* is to apply to the part, five or six times a day, a little eucalyptus oil, which has an admirable effect in dissipating the tumour and preventing the formation of matter. If pus has already formed, the boil should be treated as an abscess. Free vent to the pus should be given with the knife. The cavity should be well syringed out with warm water, and subsequently disinfected with a solution in water of corrosive sublimate (5 grains to the pint), of Jeyes' Fluid (1 to 20), of eucalyptus oil with iodoform, or a saturated solution of alum, in water. Poulticing the part might be tried; but the frequent application of eucalyptus oil to an abscess in the process of formation will, as a rule, be found to be the more preferable plan.

CHAPTER III.

INJURIES.

WOUNDS — FRACTURES — DISLOCATIONS — CONTUSIONS AND BRUISES —
SPRAINS — BURNS AND SCALDS — PUNCTURES FROM THORNS, ETC. —
SORE FEET — DISLOCATION OF THE EYEBALL.

Wounds.—In a recently-inflicted wound, whether by accident, or in the course of a surgical operation, we should, if necessary, try to stop the bleeding by picking up with a suitable forceps, any of the divided blood-vessels, and twisting or tying them. If dirt or foreign bodies have gained access to the wound, they should be gently removed. In doing this, we should use as little water as possible. The divided surfaces are often best protected by allowing the blood to dry over them. If practicable, an excellent plan is to cover the part over with iodoform and to further protect it with three or four layers of antiseptic cotton wool. The divided parts may then be brought together by means of a suitable bandage, which of course should not be put on too tightly. If the wound continues to smell “sweet,” and no discharge oozes through the dressing, it should be left untouched for five or six days. After that, the dressing may be removed,

and iodoform again re-applied. This system of dry dressing gives the best results. If the wound or *sore* assumes a pale or suppurating appearance, bathe it with warm water and apply powdered burnt alum or a few drops of turpentine. Free escape of matter and cleanliness should be insured.

Fractures.—The existence of a fracture of a bone may be known by deformity, increased mobility, and by the crepitation or grating which may be felt when the broken ends of the bone rub against each other. The first care is to accurately bring the broken ends together, and to retain them thus without movement until union takes place. In the case of a limb, we may surround the seat of injury with a few turns of cotton wadding, lint, or other suitable material, so as to allow the necessary pressure to be applied in a uniform manner without hurting the part. We may then prevent movement by applying splints of, for instance, cardboard, stiff leather (previously soaked in water), or thin laths of wood, which may be kept in position by a suitable bandage. Care should be taken that while the pressure effects its object, it should not cause irritation or stagnation of blood. Although the bandage may be removed and re-applied from time to time, its support should not be dispensed with for at least a month. Precautions should be taken to keep the patient quiet and to prevent him from tearing off the bandage and splints. When a wound communicates with the fracture, the gravity of the case is greatly increased. Under favourable conditions, the process of bony union should be well advanced in three months' time.

Dislocations.—Reduce the dislocation, and give complete rest for a month.

Contusions and Bruises.—In parts which admit of pressure, I find that the best results are obtained by surrounding the seat of injury with some soft material such as cotton wadding, or cotton wool, and then applying firm and uniform pressure with a bandage. Or, apply eucalyptus oil four or five times a day. If matter has formed, we might give it vent with the knife, after, if necessary, poulticing the part. We may then treat it as a wound.

Sprains.—If the sprain is on one of the legs, the best treatment is to envelope the part with some soft material, such as cotton wadding, or cotton wool, so as to obtain uniform pressure, and then apply a long narrow bandage with gradually increasing pressure. Five or six layers of unbleached cotton wadding would do. This bandage might be removed after twenty-four hours, and might be re-applied for a similar length of time, after gently massaging the part for from five to ten minutes. Long-continued and uniformly-applied pressure, appropriate and early massage, carefully-regulated passive exercise and rest are the most valuable means for the successful treatment of sprains. I see no good in hot or cold bathing, or in the application of lotions, liniments or embrocations, in the treatment of these injuries. In the case of a sprained joint, passive exercise (namely, bending and extending the joint with the hand, without causing the dog to move) is of great value.

Burns and Scalds.—If blisters have formed, they should be punctured with a needle, and the fluid gently pressed out. We may then apply iodoform over the part and cover it over with antiseptic cotton wool, which may be kept in position by a bandage. Or we may apply lint or cotton wool over which iodoform ointment has been smeared. If iodoform cannot be obtained, we may use carron oil, which is a mixture of equal parts of lime-water and linseed oil, or any sweet oil. Or we may dust the part over with flour; or cover it with cotton wool, so as to keep out the air. If the injured parts begin to separate from the healthy tissues, we may apply poultices and treat as an ordinary wound. As these injuries are often accompanied by great shock to the system, the strength may have to be supported by stimulants, such as half a glass of wine from time to time. If there be great pain, give thirty drops of laudanum or chlorodyne in wine or in a little cold water.

Punctures from Thorns, etc.—If it can be easily done, remove the foreign body with the forceps, point of the knife, or other suitable instrument. If it cannot be readily got at, we may soften the parts, to facilitate its extraction, by poultices or by a blister. When the foreign body has been extracted, treat the part as a punctured or ordinary wound, as the case may demand.

Sore Feet.—In ordinary cases, apply eucalyptus oil, tincture of myrrh, Friar's balsam, or plain spirits. This treatment will often prevent the undesirable formation of pus, which poulticing and bathing with warm water will encourage. If

pus has formed, vent should be given to it with the knife, and the part treated as directed on page 112.

Dislocation of the Eye-ball.—This accident sometimes happens from injury, especially among dogs which have prominent eyes. No time should be lost in trying to replace it. Mr. Leeney advises that “the outer angle of the eyelids should be divided and the globe pushed into place by pressure of the finger previously oiled.” A pad should be made of lint or other suitable material, and kept in place by a bandage. The part may be treated with any suitable astringent, such as a lotion made with a quarter of a pint of water and 2 grains of corrosive sublimate, 3 grains of chloride of zinc, 3 grains of nitrate of silver, 5 grains of sulphate of zinc, or 25 grains of alum. The animal should be kept quiet, and for that object, he may get a dose of chloral hydrate.

CHAPTER IV.

EYE DISEASES.

BY MR. HAROLD LEENEY, M.R.C.V.S.

DISEASES of the eyes are numerous and frequent, without counting the many injuries received, for example, by dogs, whether hunting in gorse coverts or pursuing cats, who attack the eyes with great dexterity. In a kennel in which medical treatment is attempted, the medicine-chest should contain a 4 per cent. solution of cocaine, for both horses and dogs may be in need of it to render the eye practically insensitive while thorns and other offending bodies are removed or lacerated lids brought together with fine sutures.

The majority of the eye troubles of a dog, with the exception of accidents, occur at the two ends of his life. They may be, and indeed usually are, affected by that hydra-headed monster called distemper for want of a better knowledge of its nature, and, again, as old age approaches very few dogs retain perfect sight.

Conjunctivitis.—Inflammation of the surface of the eye is most frequently caused by flies and other insects and by long grass and other obstacles thrown back in the face when in pursuit of prey or other dogs. Watching under a door with the

eyes in a draught will sometimes account for inflammation. The symptoms are more or less swelling of one or both lids, intolerance of light, and escape of tears down the cheeks. On turning up the lid the lining membrane is observed to be very red, and the patient shrinks from any examination. An aperient of oil or a saline purge is good treatment, since there may be some amount of sympathetic fever where the stings of insects have been the cause. Fomentation with warm milk, with lead lotion, or with a decoction of boiled poppy-heads is recommended. The sedative influence of belladonna on other parts is well known, but not to be recommended for an eye which is intolerant of light, because this drug dilates the pupil, which opium does not, but if taken inwardly it contracts it.

Advantage is taken of these two drugs in the treatment of deep-seated inflammations of the eye when the iris, or movable curtain which regulates the size of the pupil, is liable to be fixed by the fine bands of lymph caused by the disease; alternate doses of opium and belladonna keep the iris moving—that is to say, enlarging and contracting, and so prevent its becoming fixed.

Ulceration of the Cornea.—Is a frequent sequel to distemper, and may occur at any age as a result of malnutrition. An insufficient supply of flesh food is said to account for it in South Africa, as also different forms of eczema. It begins with opacity of the front of the eyeball, and presently a weak spot is observed and then a hole which may become enlarged and ragged, eventually permitting

the escape of the aqueous humour and permanent blindness. *Treatment* should be constitutional as well as local, and is usually successful even in bad cases. Unless diarrhœa exists, an aperient should be given to remove offending material from the bowels, and then a course of tonic medicines, as iron and quinine, with liberal diet, of which a large proportion should be of meat. The eye should be carefully sponged free of matter, and the edges of the ulcer lightly touched with a lunar caustic (nitrate of silver) point. This may be done the more readily by previously dropping a small quantity of a 4 per cent. solution of cocaine into the eye. Other caustic agents may be used if the above is not available, but none answer the purpose so well. The signs of repair will be redness of the edges of the ulcer and contraction of its area. When quite healed, and after the cloud over the globe has cleared up, there will remain a white spot, which will not interfere with the sight to any appreciable degree.

Cataract.—In the popular mind the cloud upon the cornea or the nebula just described is commonly, though erroneously, called cataract. Opacity of the lens or its capsule constitutes true cataract, and is beyond remedy in the dog, as its removal would necessitate the use of spectacles, without which the animal could not focus an object.

Cataract may result from blows or other causes of deep seated inflammation, chronic illness, mal-nutrition, or old age, and only in the young can any hope of amelioration be held out as the result of good diet and hygienic conditions.

Amaumosis (or glass eye).—Is caused by paralysis of the optic nerve, the transparency of the eye not being lost, and, except for a vacant look about an animal so affected, one might not observe his actual condition. It is quite incurable, except in rare instances, when it results from concussion and effusion, which may subside, and the fluid become absorbed.

Staphiloma (grape on the eye).—Is not a very hopeful condition for treatment. It is a bulging of the cornea and thickening outwards, with a whitish or red point, which, if it does not break, undergoes changes in colour and construction, always ending in permanent disfigurement and reduced value, although the dog may have a fair amount of vision left in the eye.

Expert operators sometimes transfix it with a needle, and cut away the greater portion, but it is not a task we should recommend the amateur to attempt.

Hair on the surface of the eye is a disfigurement occasionally met with ; a warty substance of a somewhat yellow tint grows upon the surface of the cornea, and hairs grow from it. It has to be removed by a fine-edged scalpel, and cocaine or total anæsthesia is essential to the success of an operation on a structure so sensitive as the front of the eye.

CHAPTER V.

EAR DISEASES.

ORDINARY CANKER OF THE EAR—PARASITIC CANKER OF THE EAR— DEAFNESS.

Ordinary Canker of the Ear. — The diseases which usually come under the very inappropriate term, canker of the ear, may be considered under the following headings.

1. *Internal Canker of the Ear.*—This is inflammation of the skin and mucous membrane which line the passage which, commencing on the outside, terminates at the drum of the ear. Its chief *causes* are the barbarous habit of punishing a dog by pulling his ears; irritation due to the entrance of foreign matters, such as dirt; altered nutrition of the part from the too frequent action of water, as from frequent swimming; and infirmity from old age. The *symptoms* are those of inflammation with a more or less offensive discharge. The dog evinces uneasiness and pain; rubs and scratches the affected part; and shakes his head with but little cessation. The *treatment* should be soothing. It is well to commence invariably by pouring into the ear a little warmed olive or almond oil once a day for at least three days. This softens the hardened secretions, and allows subsequent remedies to

reach the inflamed membrane. The inflamed passage should be bathed with warm water, which should be gently poured into it several times. In the case of a human being, the application of tepid water could be best done with an ear-syringe made for the purpose; but with a dog, it is difficult to use this instrument without irritating him. Great care should be taken that the oil or water is not too hot—certainly not more than 95° F. This bathing may be done twice a day. After it, and on, say, three or four other occasions during the day, a solution of bicarbonate of soda (1 to 10) in water may be poured into the ear. After a couple of days we may change this solution for

Boroglyceride	...	...	...	...	...	1 part.
Glycerine	...	...	...	...	...	1 part.
Water	...	...	...	...	...	4 parts.

or,

Liquor plumbi subacetatis	...	...	...	...	1 part.
Olive or almond oil	...	...	...	...	4 parts.

“The best remedy I have ever used, and I have never known it to fail, consists of equal parts of the liquor plumbi and tincture of arnica diluted with an equal quantity of water, poured into the ear; and whilst the dog’s head is held on one side, it must be gently kneaded in by rubbing the dog’s ear against its head. No collar should be used whilst the dog is suffering from this complaint, as he is sure to shake his head all day long, and to bruise the flap of his ear, which eventually becomes raw.” (Idstone.)

External Canker of the Ear is a term applied to more or less chronic sores, cracks and abscesses on the ear-flaps. They

may be caused by the dog rubbing, scratching and shaking his ear on account of the pain from internal canker ; or they may be due to injury, or irritation. If it be concurrent with an inflamed condition of the lining membrane of the passage, both diseased states ought to be treated at the same time. We may apply to the part, iodoform, powdered burnt alum, eucalyptus oil, a solution in water of Jeyes' Fluid (1 to 20), or other suitable antiseptic. If matter (pus) has formed, it should be given free vent with the knife. To prevent matter forming, when the part is swollen and inflamed, nothing is better than eucalyptus oil applied four or five times a day. If the cracks in the ears do not show a disposition to heal, they may be touched with nitrate of silver. The majority of writers on canine diseases recommend the use of a cap to cover and keep down the flaps of the ears, in the treatment of external canker. Dalziel is of opinion that it does more harm than good.

Parasitic Canker of the Ear.—A not very uncommon form of inflammation of the passage of the ear is caused by the presence of an itch or mange insect, the attacks of which appear to be confined to that part. Neumann states that it is chiefly met with among packs of hounds.

The *symptoms* are those of uneasiness and pain in the part, and are evinced by the animal rubbing and scratching the affected ear, shaking his head, etc., on account of the irritation set up by the presence of these insects. A marked symptom is the occurrence of fits (like those of epilepsy) which suddenly

attack the dog after exercise. He howls with pain, dashes about as if he were mad, foams at the mouth, runs round and falls down insensible. He may get up again all right after a rest, probably, to be attacked again, if he resumes work. The intense irritation which gives rise to these fits, injuriously affects the patient's spirits and health, and may eventually kill him. The irritation causes an increased secretion of wax, a peculiarity of which is its dirty appearance. If a portion of this wax be removed and examined with a magnifying glass, the parasites will be found in abundance. They appear like "tiny white specks, oval in shape, and about the size of the eye of an ordinary small sewing-needle. . . . They are extremely active in their movements, and, if the ear be carefully watched for a few moments, they may be seen running about the skin, and also along the hairs in the ear, at a fairly rapid rate, considering their minute size." (*Sewell*.)

Treatment.—Bathe the ear with warm water, and pour into the passage a saturated solution of bicarbonate of soda in water to soften the wax. To destroy the parasites, Mr. Sewell advises application, with a camel's-hair brush, of a mixture of 1 part of nitrate of mercury ointment with 8 parts of almond or olive oil, over the inside of the (external) ear; and that a few drops should be poured into the passage. Nocard strongly advises:—

Olive oil	...	...	...	...	...	10 parts
Naphthol	...	...	...	...	...	1 part
Ether	...	...	...	...	...	3 parts

to be injected into the passage of the ear, which may then be

closed with cotton wool for ten or fifteen minutes, so as to prevent the ether evaporating.

If the foregoing agents were not at hand, we might substitute for either of them, a mixture of one part of eucalyptus oil and two of olive oil.

Deafness is not a rare complaint, especially among white-coloured dogs. When it is congenital, no treatment will be of avail. When caused by inflammation of the lining membrane of the passage, we may treat as for internal canker of the ear. (*See page 121.*) I may mention that deafness is often caused by inflammation of the mucous membrane of the throat spreading to that of the ear. This condition in man may be treated advantageously by inhalation of chloride of ammonium, which, unfortunately, cannot be applied to dogs.

CHAPTER VI.

DISEASES OF THE DIGESTIVE ORGANS.

INDIGESTION—WORMS—DIARRHŒA—CONSTIPATION—PILES—FISTULA
IN ANO—CHOKING—VOMITING—CANKER OF THE MOUTH—COLIC—
FLATULENCY—INFLAMMATION OF THE STOMACH—PROLAPSUS ANI—
LIVER DISEASE.

Indigestion.—Under healthy conditions, the nutritive portion of the food is, to a large extent, dissolved or emulsified by the various digestive juices (for example, saliva, gastric juice, pancreatic juices, bile and intestinal juice), and is absorbed into the blood, for the building up of tissue; the waste portion being expelled in the more or less inert form of dung. Although a certain portion of the nutritive elements of the food escape with the dung, their presence, to any marked excess, in the stomach and small intestines, will, in the event of their not becoming quickly absorbed, act as an irritant, and will give rise to indigestion. Their non-absorption may be due to an excessive amount of food; to food which does not lend itself to ready absorption; or to inability on the part of the digestive apparatus of the dog. In the first case, for example, we may have indigestion from the eating of too much meat; in the second, from that of pastry and sweets; and in the third, from want of exercise, severe exercise soon

after feeding, derangement of the liver, worms, etc. The *symptoms* are : depraved or capricious appetite ; bad breath ; furred tongue ; acid eructations ; constipation or diarrhoea, either separately or alternating ; vomiting ; dryness and harshness of coat ; disordered state of the skin ; a dry and hot condition of the nose ; colic ; irritability of temper, etc. The correct *treatment* here is the removal of the cause. With this object we should see that the patient gets plenty of well-regulated exercise ; that the amount of his food is restrained within frugal limits ; and that he is kept under proper sanitary conditions (*see* Part II.). With pets, a moderate course of starvation will generally be useful. The dog should have free access to grass (*see* page 67), so that he may eat it if so inclined ; and the bones which are given him to gnaw, should be thrown to him on dry earth (*see* page 67). To correct acidity of stomach, he may get in his food, daily, a small teaspoonful of bicarbonate of soda. If his teeth are at fault, they should be seen to. Half a teaspoonful of pepsalia (a patent condiment consisting of a mixture of salt and pepsine) may be put into his food every day. A dessert spoonful of castor oil, or $\frac{1}{2}$ oz. of Epsom salts may be given for the removal of any irritating substances which may be in the intestines. If the indigestion be due to the presence of worms, or to other forms of disease, he should be treated accordingly.

Worms.—Under this broad heading, we may classify the tapeworms and round worms which infest the intestinal canal of more than half the dogs in the world. The tapeworm is,

of the two, the much most serious enemy of the dog. Tapeworms, which are of many kinds, require an intermediate host for their development. This parasite, in the dog, consists of a head, by which it attaches itself to the mucous membrane, with a varying number of segments, which look somewhat like grains of boiled rice, and which contain eggs. These eggs are expelled with the dung. In the majority of the varieties of tapeworms, these eggs fall to the ground, and, under favourable conditions, attach themselves to herbage which cattle, sheep, pigs, hares, rabbits, etc., consume. The egg or diminutive worm having thus gained entrance into its host, may be absorbed into the blood, and may be carried by the fluid into various tissues. It may bore its way through the intestinal coat, or it may crawl into a convenient lodging. Thus, we have in the brain of the sheep. bladder worms which produce "gid," and, in the muscle of cattle, the cysts which are frequently found in Indian beef. From this we learn that tapeworms are injurious, not alone to the health of the dog; but also to their intermediate hosts. For the sake of the dog, we should give him no meat or offal which, with the object of destroying the parasites, has not been thoroughly boiled; and should take prompt steps to remove all tapeworms out of him. For the sake of other animals, and, also, indirectly on account of our canine friend, we should destroy all the eggs and segments dropped by him. As the head of the tapeworm has the power of generating new segments, its removal out of the dog is imperative, before



MR. EVERETT MILLAIS'S BASSET HOUND "MODEL."

relaxing our remedial efforts. One common form of tapeworm has for its intermediate hosts, the dog louse and dog flea, both of which swallow the tiny worms which escape on to the surrounding skin, as the eggs issue from the anus. These very minute worms form cysts in the louse and flea, which, on being licked up by the dog, carry with them the parasite to its canine host. This fact explains how puppies, even before they are weaned, get tapeworm, and how carefully-kept dogs, even by casual intercourse with lousy ones, may become affected.

Round worms require no intermediate host. They infest the intestines. Sometimes, they get into the stomach, where they cause a great deal of disturbance, and may be vomited up.

The diagnostic *symptom* is the presence of the parasite in the *ejecta*. There is no mistaking the round worm. The segments of the tapeworm are flat, white, and membranous in appearance; and are of the form of small square-cut pieces of tape. The presence of worms in the dogs gives rise to voracious appetite; loss of condition; a harsh and staring state of coat, the hair of which often falls out in large quantities; nose, hot, dry and rough. There is generally a nasty cough, and the animal becomes restless and irritable.

The *treatment* should, naturally, consist in the removal or destruction of the parasites. To obtain this, the medicine should be given on an empty stomach. Consequently, it is well, in ordinary cases, to keep the dog fasting for twenty-four

hours before administering the vermifuge. The good effect of this abstinence is certainly heightened by withholding water from the dog during that time, or giving him only a very little to drink. If the appetite be depraved or excessive, the straw, if this material be used for bedding, should be taken away, or the dog muzzled, lest he may eat it. If the animal be delicate or a puppy, such sharp "setting" need not be resorted to; but we must remember, that the longer the fast, the more effective will be the action of the vermifuge. For tape worm we may give powdered areca nut (*see* page 93). For round worms we may give 3 grains of santonine in a dessertspoonful of castor oil, or 2 grains each of santonine and calomel, at intervals of not less than a week; or a pill, every morning fasting, of 1 grain of santonine and 3 grains of sulphate of iron; or Spratt's worm powders. Half an hour after the areca nut has been taken, we should give a dose of castor oil, which may be followed in another half-hour by a basin of warm broth or gruel. I may mention that the removal of round worms is far easier than that of tapeworms. The areca nut should be repeated after a few days. In the case of tapeworm, one cannot be certain that the parasite has been expelled unless one finds the head, which is easy to recognise and for which diligent search should be made. To facilitate this object, the dog should be kept on the chain until the effects of the medicine has worked off. It may happen that although the first dose may bring away no parasites the second one may

prove effective. We may note that a single dose rarely brings away the head of a tapeworm, or effects the expulsion of an entire colony of round worms.

Diarrhœa may be defined as frequent and copious purging without straining. It is, like colic, a symptom of disease and not a disease of itself. Consequently its appropriate treatment is the removal of the cause. It is frequently met with in the dog, and is the result of various causes, such as improper food, worms, bad sanitary conditions, liver disease, distemper, improper use of medicines, etc. If worms be the source of mischief, the dog should be specially treated for them. As a rule, it is well to give a dessertspoonful of oil, with the view of clearing away any irritating matters that may be in the intestines; for diarrhœa is, generally, an effort of nature to expel some offending substance. When chronic, it may be due to inability and weakness of the digestive apparatus. One of the best and most convenient medicines is chlorodyne given in a little cold water or wine, in doses of from 10 to 40 drops as the case may require. Half a glass of port wine may be given from time to time. The food and sanitary conditions should be carefully attended to, and the animal should be kept warm and comfortable. Boiled milk, rice water, and thin gruel made by boiling a little flour in water, will have an astringent effect.

The term *dysentery* is often applied to diarrhœa in which blood is mixed through the stools. I am unable to say if true dysentery, which is a specific fever (as found in man), is met

with in the dog. True dysentery is characterised by high internal temperature, frequent and scanty stools containing blood and mucus, straining, griping, and tenderness over the intestines. Dysentery or dysenteric diarrhœa (whichever way we may regard it) is seldom seen in the dog, except as a sequel to distemper. *Treat* as for diarrhœa, and give the lead and opium pill as directed on page 137.

Constipation.—Although the dung of the dog comes away, naturally, in a harder state and with greater difficulty than that of other domestic animals, with the exception, perhaps, of the cat; constipation is a frequent disease among dogs kept in confinement. The causes are, usually, improper food (especially too much bones) and want of exercise. This accumulation of dung in the intestines of the dog may give rise to great pain and to distension of the abdomen with gas. In treating a case of constipation, we should avoid the error of giving, in the first instance, a purgative, which might cause a large discharge, into the intestines, of fluid, which, in the event of its being unable to force its way through the natural channel, might cause fatal injury. Instead of adopting any such heroic method, we may introduce a well-oiled finger into the anus, and by its means or that of some suitable instrument, remove as much of the hardened dung as we can. We may then give a few enemas of lukewarm water, in which a good lather of soap has been made. An enema of a dessertspoonful of glycerine will generally produce a copious discharge of fluid. When the bowel has been

fairly well cleared by this means, we may give a dessert-spoonful of castor oil. If the symptoms of pain or distension be urgent, we may give 30 drops of chlorodyne in a little cold water or wine. If this be not at hand, we may give a small glass of spirits in three parts of water. When the belly is painfully distended, much relief may be obtained by gently rubbing the part with the palm of the hand.

Piles are a swollen condition of the veins which are near the anus, and are caused, generally, by disease of the liver, due to over-feeding; want of exercise; old age, or the too free use of medicines which stimulate the action of the liver. Chill of the part from the dog lying on cold stones, etc., may also give rise to piles. This congested state of these veins is much aggravated by constipation. The piles may be situated just outside the surface, or just inside of it. Their presence may be observed by examination of the part. Piles are frequently to be found among dogs, and especially among old pets. They are a source of misery to the patient, and they make him a disagreeable object to look at. For *treatment*, keep the sufferer on laxative food, by allowing a good lot of vegetables with the oatmeal, biscuits, or rice, and broth, without any meat. If necessary, give a teaspoonful of sublimed sulphur (in milk) or a dessertspoonful of castor oil, to keep the bowels open. A teaspoonful of the following electuary may be given three times a day with advantage:—Equal quantities of powdered black pepper, caraway seed (aniseed or coriander) and cubebs, mixed up into the consistency of a

paste with glycerine. The best local application for piles is the gall and opium ointment, which any chemist will make up. If the tumours become wounded or ulcerate, continue the same remedies; but keep the part clean and disinfect with a solution in water of Jeyes' Fluid (1 to 20), corrosive sublimate ($\frac{1}{2}$ grain to the ounce), a saturated solution of boric acid, or other suitable antiseptic. Piles may be ligatured if conveniently placed.

Fistula in Ano consists of a sinus commencing close to the anus and extending inwards. It may open externally or may be in the form of a closed sack. It may be caused by constitutional derangement, neglected piles, or by injury. The proper *treatment* will consist in removal of the cause, and in evacuation of the contents of the abscess, and in its thorough disinfection. The sinus (after being opened, if necessary) should be thoroughly cleared of matter and blood by syringing it out with warm water; and after that with some antiseptic solution (see preceding paragraph). A saturated solution of iodoform in eucalyptus oil or in ether might be tried.

Choking.—The symptoms of choking are so well known that I need not allude to them beyond saying that one should be careful not to mistake, for them, symptoms of spasm of the throat of a rabid dog (see page 160). Such a mistake could occur only in the case of a strange dog. We may try extraction with the fingers or long forceps, or (which is a difficult operation) we may attempt to push down the obstruction by means of a probang, which may be improvised by

securely tying a piece of oiled sponge to the end of a thin and flexible cane. If the case be desperate, the gullet, or even the windpipe may be opened.

It sometimes happens that a splinter of bone or a needle becomes lodged at the back of the mouth ; one end stuck in the root of the tongue and the other, perhaps, imbedded in the soft palate. This not uncommon accident may be easily relieved by cutting the obstruction through in the middle with the forceps, and then removing each piece separately.

Vomiting in the dog is often an easy and normal method of getting rid of offending substances from the stomach. Dogs and cats, with a view of exciting this natural function, eat grass when they feel a bit out of order. The sickness of stomach may be due to various diseased conditions, such as indigestion and worms, in which case the treatment should be directed to remove the cause.

Canker of the Mouth is a disease which may be said to be peculiar to overfed and underworked pets, and old dogs. The teeth become incrustated with tartar ; the gums spongy and ulcerated ; the digestion consequently impaired, and the breath offensive. The ulceration of the gums is caused by the irritating presence of the tartar, which should be removed by the forceps and instruments specially made for scaling the teeth. Any sores on the cheeks or gums may be touched with solid nitrate of silver. Mr. H. G. Rogers, M.R.C.V.S., recommends an application of alum and myrrh prepared as follows : Dissolve $\frac{1}{2}$ oz. of alum in 7 oz. of water, and then

slowly pour into this solution $\frac{1}{2}$ oz. of tincture of myrrh. Preparing the application in this way will prevent the gum which is contained in the myrrh from becoming precipitated. In bad cases, the proportion of alum may be doubled. Or we may paint the gums by means of a soft brush, sponge, or rag, three or four times a day, with eucalyptus oil or tincture of iodine. If these cannot be obtained, use a strong solution of boro-glyceride, boric acid, tincture of myrrh, or of alum. Carefully attend to the diet and exercise (*see* Part II.); and allow a bone (*see* page 66) after feeding. If indigestion be present, it should be treated in the manner described on page 127. Under ordinary circumstances, a cure may be expected in a week or ten days. Caries of the teeth is rarely if ever, seen in the dog.

Colic is the expression of abdominal pain, and may be due to various causes, such as indigestion, irritating drugs, flatulency, constipation, worms, etc. For allaying the mere pain, give 30 drops of chlorodyne or laudanum in half-a-glass of wine or cold water. Treat the cause. Two or three enemas, or a dose of castor-oil may be useful.

Flatulency.—Pampered and under-exercised dogs, especially when they become old, often become offensive from the habit (due to ill-health) they acquire of “breaking” evil-smelling “wind.” The resulting stench is greatly heightened by giving the animal sulphur, or by feeding him on whole-meal cakes, as is the frequent custom in India, where they are called in Hindustani *chupatees*. For treatment remove the

cause, and attend to the patient's general health. For distension of the abdomen with gas, *see* "Colic" (preceding paragraph).

Inflammation of the Stomach is generally complicated with *inflammation of the intestines*. It is usually caused by the eating of improper food. "Soup-meat," which is the strained-off residue of meat that has been boiled down (often for some days) for soup, after it has cooled down is liable to become unwholesome in a short time, and to set up inflammation in the alimentary canal. The usual *symptoms* of inflammation of the stomach are—fever; injection (increased redness, of a more or less purple or brick tinge) of the mucous membrane; vomiting; purging, more or less bloody; manifestation of pain on the application of pressure over the stomach; posturing so as to rest the stomach near the ground, with the fore-legs stretched out to the front, etc. The *treatment* may consist of castor-oil, followed by chlorodyne. If the diarrhœa has continued long enough for the removal of any offending matter, we may check it by giving five grains of lead and opium pill every three hours, until all violent purging has ceased. Warm, moist flannels should be wrapped round the body. As to *diet*, give at first only slops, and no solid food. Afterwards give raw minced meat.

Prolapsus Ani usually affects old, pampered and costive pets. It may consist of the protrusion of the bowel itself or only of its mucous covering. The longer and more frequently the part is exposed, the harder, larger and more difficult to return will it become. Hence, we should try to replace it as

soon as possible. With his object we may wash it with cold water, or with a saturated solution of alum in water, and then may try to return it by means of our fingers and a soft towel. If we be not successful we may puncture the swollen mucous membrane at several spots with the point of a lancet, so as to induce bleeding and reduction of the swelling. If this be not sufficient, a portion of the mucous membrane may be removed with the knife, scissors, or hot iron, and the necessary stitches put in. The lower part of the bowel may be unloaded by two or three enemias of cold water to correct any existing constipation. Regulation of the diet and the enforcement of a judicious amount of starvation and exercise should be employed rather than the use of laxative medicine ; for any straining will naturally increase the liability to prolapsus.

Liver Disease is common in the canine residents of hot countries. Long-continued heat, as in the familiar case of the Strasburg geese which supply us with *pâté de foie gras*, causes serious derangement to the liver, and renders that organ particularly sensitive to the evil effects of chill. Dogs are specially liable to bring on liver trouble by the habit they contract of lying on stones, concrete flooring, and other cold surfaces, in order to reduce their temperature. *Jaundice*, which is the name given to the yellow staining, by bile, of the mucous membranes, skin and other tissues, is a symptom of liver disease. It is generally fatal in dogs, because the early symptoms of the actual disease are, as a rule, overlooked, and the complaint is allowed to run on beyond the time

during which medical interference might be of avail. The *symptoms* of liver disease are—lassitude; loss of appetite; derangement of the bowels; pain and swelling of the liver, which may be felt on the right side of the abdomen just below the ribs; jaundice, etc. Appropriate *treatment* is to guard the animal against the causes which induced the disease in the first instance, and to keep it under healthy conditions. The food should be light and sloppy. Sal-ammoniac is a safe and valuable medicine for relieving the liver when in a congested state, in which condition warm fomentations over the part will be of service.

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CHAPTER VII.

DISEASES OF THE ORGANS OF BREATHING.

BLEEDING AT THE NOSE—POLYPUS IN THE NOSE—LEECHES IN THE NOSE — PARASITIC NASAL GLEET — COUGH — CATARRH — ASTHMA — BRONCHITIS—CONGESTION OF THE LUNGS—INFLAMMATION OF THE LUNGS AND PLEURISY—SORE THROAT.

Bleeding at the Nose may be caused by plethora or injury. We may apply cold douches to the head, and give a dose of castor oil.

Polypus in the Nose.—The presence, in the nose, of one or more polypi, which are generally fibrous tumours, may be suspected from the fact of the nasal breathing, without any apparent cause, becoming irregular and more or less obstructed. When they exist in the nose, they may be seen by opening the nostrils with the fingers and looking down them by the aid of strong sunlight. They may be removed by tying their base tightly round with thread, by cutting it through, or by twisting them off by means of a forceps.

Leeches in the Nose.—These blood-suckers often abound amid the herbage on the surface of countries of which the climate is damp and hot; and are apt to gain entrance into the nostrils of dogs that roam through

their haunts, or that drink at water in which they are. Their presence will be made known by the fact of the dog snuffing and by other symptoms of uneasiness evinced by him. These blood suckers may be expelled by syringing a solution of common salt (in water) up the nostrils. Or the dog may be kept without water for several hours, and when he is given water, the leeches, which will come down to drink, can be picked off.

Parasitic Nasal Gleet.—There are two forms of tapeworm (*See* page 128) which, sometimes, take up their abode in the cavities of the nose, and in the sinuses of the head. Their presence gives rise to running at the nose, the discharge from which may be seen to contain eggs and segments of the parasite; and difficulty of breathing. A dog thus affected, may be observed to make efforts to swallow, on account of some of the discharge getting into the back of his mouth. He is also inclined to rub his nose with his paws.

Cough is a symptom of some form or the other of irritation (direct or reflex) to the organs of breathing. Its nature is often a valuable guide to diagnosis. Thus, in catarrh, the cough is soft and moist; in pleurisy, painful and suppressed; in asthma, weak and short; in bronchitis without discharge, hard; in sore throat, strong, hoarse and painful in its after effects. The pressure of worms may, by reflex action, give rise to cough. For the treatment of ordinary cough from cold see "Catarrh," next paragraph.

Catarrh (*cold in the head*).—The symptoms are so similar

to those in human beings, that they need not here be detailed at length. There will be some fever, the presence of which will be indicated by the existence of depression, high internal temperature, and by the nose being hot and dry. The attack may be heralded in by fits of shivering. The surface of the eyes may become dim and inflamed; and there may be more or less cough and difficulty in swallowing. *Treatment.*—Nurse the patient carefully. If the bowels be constipated, give $\frac{1}{2}$ oz of Epsom salts. During the day, we may give twelve Soden Mineral Pastilles; six morphia and ipecacuanha lozenges; or thirty drops of eucalyptus oil, mixed in any suitable vehicle, such as a glass of wine, and divided into three doses. We may, from time to time, fumigate the nostrils by means of a sponge, dipped in boiling water, wrung comparatively dry by the aid of a towel, so as not to scald the fingers, and then sprinkled over with eucalyptus oil or with turpentine.

Asthma is a common disease among old, pampered and under-exercised dogs; and manifests itself by paroxysms of difficulty of breathing and coughing, which seize the sufferer from time to time. The attack itself consists in spasm of the muscles which line the small air tubes of the lungs. The disease induces in the lungs morbid changes which interfere with the ability of that organ to expel the respired air. The chief causes are: over-feeding and want of exercise, combined with old age. Treatment can only be alleviative. Keep the animal comparatively low in condition by curtailing the quantity of his food and by increasing the amount of his exer-

cise. The food should be of the simplest kind and may be divided into three frugal meals daily, so that the animal's stomach may not be overloaded at any one time. Making him inhale, twice or thrice a day, the smoke of stramonium will help to diminish his tendency to these spasms. Attend to his general health, and keep his bowels open.

Bronchitis is inflammation, acute or chronic, of the membrane which lines the small tubes that carry air to and from the lungs. It may be caused by chill ; the breathing of irritating fumes or foul air ; by drenches going the wrong way ; or by the existence of distemper. It is possible that it may arise from infection as in influenza. Chronic bronchitis is frequent among old, pampered pets. The *symptoms* of acute bronchitis are : fever and consequent depression, hot, dry nose and increased internal temperature ; dry cough ; hurried breathing ; and dark colour of the mucous membrane from imperfect oxidisation of blood. In three or four days, the fever passes off ; there is, at first a watery discharge from the nose. The discharge soon becomes thick, copious, and, may be, tinged with blood ; and is coughed up, as well as ejected from the nose. If the ear be placed against the front of the chest, the sound of the air gurgling through the thick fluid which more or less blocks up the bronchial tubes, may be distinctly heard, and may be accepted as a proof that the disease is bronchitis. Under favourable circumstances, the attack gradually passes off. Sometimes, although the acute symptoms pass off, the irritation remains in the form of chronic

bronchitis. *Treatment.*—Keep the animal warm, though in a well-ventilated place. Get him to inhale steam, and the vapour of eucalyptus oil or of turpentine. If the bowels be constipated, give a mild dose of castor or olive oil. Give, two or three times a day, five grains of Dover's Powder or of James's Powder. The throat and front of the chest may be gently stimulated by rubbing it with eucalyptus oil, or with equal parts of turpentine and any sweet oil. Chronic bronchitis gives rise to continued difficulty of breathing, with harsh-sounding respiration. It is, as a rule, accompanied by impairment of the action of the lungs, and is liable to injuriously affect the general health. The treatment can be only palliative. The diet should be light, frugal, and laxative. To relieve the difficulty of breathing, we may give, from time to time, five grains of Dover's Powder; and we should apply to the chest, warm, moist flannels covered with American cloth or other soft waterproof material.

Congestion of the Lungs is the first stage of inflammation of the lungs, into which it usually runs before the dog is observed to be ill. In rare cases, it may be a separate disease of itself, and is then not uncommonly fatal. It may be caused by excessive exertion, chill, or the breathing of foul air. The veins are gorged with blood, and the mucous membrane, owing to imperfect oxidisation of the blood, assumes a dark red, or even purple hue. When death occurs, it is due to suffocation, of which the symptoms are those of congestion of the lungs. The *treatment* should be directed to increase the

circulation of the surface of the body. Hence, we may give wine or spirits and water in small doses repeated once or twice. There should be free ventilation, and we may wrap the animal's body in flannel out of which hot water has been wrung.

Inflammation of the Lungs, and Pleurisy.—The term inflammation of the lungs signifies inflammation of the lungs themselves; pleurisy, that of the membrane which covers the lungs and which lines the cavity of the chest. As these parts are intimately connected together, inflammation in one of them, will, in most cases, quickly spread to the other.

Inflammation of the lungs and of the pleuræ may be caused by chill, by injury, or, there is reason to believe, it may be a specific fever. It runs its course, which does not appear capable of being cut short, in about ten days; hence, in treatment, our efforts should be directed to tide the animal over that dangerous period. There are three stages in inflammation of the lungs, namely, engorgement of blood, consolidation of the inflammatory products in the lung tissue, and softening or breaking up of these products. In the first stage, the patient may die from the violence of the fever, which is then at its greatest height; in the second, from suffocation; and in the third, from blood poisoning, owing to absorption of diseased material.

In pleurisy there are two well-marked stages, namely, inflammation without the discharge of fluid, and discharge of fluid from the inflamed vessels. As long as the inflammation

lasts, the animal experiences pain from the two inflamed surfaces (that which covers the lungs and that which lines the cavity of the chest) rubbing together during the act of breathing. Consequently, if the ear be applied to the chest at that time, a "friction sound" will be heard; and the sufferer will try to relieve this pain, by keeping, as much as possible, the ribs at rest. The dog (different in this respect to the horse and ox) has but a small amount of abdominal breathing power; his respiration being for the most part by the chest. I may explain that in health there is practically no friction between these two surfaces; for they, then, constantly secrete a fluid for their lubrication. The effect of inflammation is, in the first instance, to arrest this secretion; in the second, to greatly increase it. Inspiration (the taking of air into the lungs), I may add, is performed by the action of the muscles which cause the ribs to rotate forward, and by that of the diaphragm (or midriff), which, on contracting, push the contents of the abdomen backwards. The one can act for the other.

In these diseases, there is increased internal temperature, quickened and distressed breathing, and rapid pulse. As portrayed by Meyhew, the dog sits on his haunches, keeps his fore-legs wide apart, bends forward, and hangs his tongue out. If pleurisy be present, there will be a painful cough, which will be suppressed as much as possible, owing to the effort made by the dog to avoid shaking the inflamed parts. In inflammation of the lungs without pleurisy, the cough, when

present, is at first full and strong. When consolidation of the lungs takes place, the cough becomes small. There is generally a discharge from the nose. During consolidation of the lungs, the internal temperature and fever falls, but the breathing increases in quickness.

Treatment.—Keep the dog warm but with plenty of pure air to breath. Give light, sloppy food. If the bowels be at all constipated, administer an enema or two, and, if necessary, a dose of castor or olive oil. When the fever is high (which will be best shown by the clinical thermometer), give, after the bowels have been put into good order, phenacitin, to keep down the temperature ; or a full dose of quinine, which may be repeated next day. We may foment the sides with flannel, soaked in boiling water, and then wrung comparatively dry in a towel. The good effect may be increased by sprinkling a little turpentine on the flannel. The only further treatment I would advise would be the administration of Dover's Powder once or twice a day ; chlorodyne or laudanum to allay the pain, if great ; a little wine to keep up the strength ; and careful nursing.

Sore Throat is inflammation of the lining membrane of the larynx, which is the small tube at the commencement of the windpipe, and which is the organ of voice. Hence the chief symptom of sore throat is loss of voice, or altered character of bark, constituting hoarseness. It is usually caused by prolonged and violent barking. and may also be due to chill. From its close proximity, the inflammation usually

extends to the parts round the upper portion of the gullet ; and consequently gives rise to difficulty in swallowing. If cough be present, it will be full ; but the effort will be evidently painful to the dog.

Treatment.—Keep the dog quiet and nurse him. Unload the lower part of the bowels by means of two or three enemas. Foment the upper part of the throat, and rub into it a mixture of equal parts of turpentine (or dilute ammonia) and oil, so as to slightly blister it ; or apply eucalyptus oil four or five times a day. Instead of stimulating the throat in this manner, we might occasionally rub into it extract of belladonna made up, with glycerine, into the consistency of a thick paste. Make the dog inhale, from time to time, the fumes of turpentine or eucalyptus oil. Give him twice a day 10 grains of finely-powdered chlorate of potash mixed up in honey or treacle. Feed him on broth and gruel, in which a good supply of vegetables has been boiled, so as to keep his bowels lax. Drenches are not advisable in cases of sore throat ; for the swallowing of medicines in this form are, then, accompanied with danger and difficulty.

CHAPTER VIII.

BY MR. HAROLD LEENEY, M.R.C.V.S.

DISEASES OF THE URINARY AND GENITAL ORGANS.

RUPTURE OF THE BLADDER—RETENTION OF URINE—GONORRHOEA—
WARTS ON THE PENIS—INFLAMED SCROTUM—ORCHITIS—PROLAPSUS
VAGINÆ—TUMOURS.

Rupture of the Bladder is an accident that sometimes happens to a sporting dog too eager in his work to seek relief in the usual way, or through jumping short or blows from outside, as a kick from a horse, while the pet dog has been known to have suffered in this way from the fear of giving offence when thoughtless persons have not allowed him the opportunity of going out. It is a lamentable accident, and there is no remedy for it.

Retention of Urine may be caused by fine stones getting down into the urethral canal and blocking it. The sufferer is observed to make many efforts to urinate without result, and soon becomes distended in the flanks and very uneasy. The patient should be placed on his back, the prepuce withdrawn, the penis pulled out, and a syringe full of warm oil injected with a moderate degree of

force into the opening, which is at the very point of his vermiform-like process, not in the position one looks for it in a horse. This will sometimes disperse the obstruction, but if it fails a small catheter should be procured and passed with gentleness and patience. In an old dog there may be paralysis of the neck of the bladder, or the urine may have been so long retained that the bladder has lost the power to contract. Emptying it or removing a portion only will usually succeed in restoring the power to void it in a natural manner. Bitches rarely suffer in this way, but trust to not being found out when they seek relief under a couch or other convenient hiding-place.

Gonorrhœa is not usually a result of sexualintercourse, but is a local symptom of indigestion, and the most frequent subjects are gouty old pets whose lingual attentions to the affected part are not sufficient for purposes of cleanliness. Treatment for indigestion (see page 126), with cleansing of the prepuce and astringent lotion of 5 grains to the ounce of alum or sulphate of zinc, a spare diet, and regular exercise.

Warts on the Penis.—These should be ligatured (see Warts), and will come away without injury to the parts affected.

Inflamed Scrotum.—The “purse” is sometimes greatly inflamed from external injuries, or self-inflicted through dragging the body along on a rough surface in the effort to get rid of worms or pieces of string which have been swallowed, and been partially got rid of *per naturalem viam*.

Warm fomentations, a mild aperient, and a soft bed are the

remedies best calculated to restore the injured parts to soundness.

Notwithstanding this treatment,

Orchitis, or inflammation of the testicles, may result, and hydrocele follow. If chronic, castration may have to be resorted to, but should be avoided, if possible, as in hot climates emasculated dogs lose their courage and become obese.

The chief genital troubles of bitches arise in connection with breeding, and, if gonorrhœa or inflamed pubes occur, it is through a mésalliance with too big or too many dogs. The same treatment applies as that recommended for males.

Prolapsus Vaginæ.—Some bitches have the vagina everted at the time of heat, though they may have had no connection with a dog. Such a condition, of course, precludes pregnancy, and needs attention. The patient should be allowed only a very small quantity of food (meat), so as to keep the belly as thin and flaccid as possible. She should be held up by the heels while the vagina is returned with an oiled finger, and a suture put deeply through the lips. There is an instrument known as West's Clamp which answers admirably for this purpose, as also for eversion of the uterus which may occur after giving birth to pups.

Tumours are occasionally met with in the vaginal passage, and are fortunately of a benign type, and, having an attachment narrow at its base, they need only to be forcibly drawn out as far as possible, and then securely ligatured—their attachment is not deep, and removal in this way is generally effectual.

Internal tumours affecting the ovaries may be dispersed naturally by the breaking of the cysts which commonly cause them ; but, when of a more solid nature, a veterinary surgeon can remove them by operation through the side.

The udder is a frequent seat of tumour, nor are virgin bitches exempt. They are usually painless, and, unless large enough to get rubbed or cause serious inconvenience, may be let alone. Removal by operation is generally successful.

CHAPTER IX.

BY MR. HAROLD LEENEY, M.R.C.V.S.

CONSTITUTIONAL AND NERVOUS DISEASES.

DISTEMPER—CHOREA—RABIES—DROPSY OF THE BELLY—RICKETS—
RHEUMATISM—PARALYSIS.

Distemper may be regarded as a disease of puppyhood ; though adult dogs are sometimes the victims of it, either as a first or second attack. There is no country or climate which can claim immunity from this disorder, and the best authorities are agreed that more than half the dogs born into the world die of distemper before reaching maturity. From three to five months old, when cutting the permanent teeth, particularly during the period at which the tusks make their appearance, the pup is most likely to be affected ; nor will the advertised nostrums so confidently recommended by sellers be found to avail anything in a really bad case. Although judicious treatment may save many patients, it would seem that the life of the puppy depends largely upon the “dose” of distemper, if one may so speak of a poisonous principle that has never been analysed successfully, or cultivated by Pasteurian methods, so as to give us a reliable protective for inoculation. Claims

have been made to the possession of an attenuated virus, which should give protection to the inoculated subject ; but adequate trial has either proved such material to be inert, or else unaltered, and therefore as liable to cause as many deaths as distemper would do when it is developed in the ordinary way.

Of the dog-dealer's method of vaccination, we need only say that to attempt the prevention or cure of distemper by the introduction of vaccine lymph—a virus of a totally different disease, and affecting entirely different species of animals—is wholly fatuous. As well might one expect the cure of a broken leg by the same methods.

In the Pasteurian principle, a preventive is to be looked for at some future date ; but pending that great event in veterinary science we must be content to combat symptoms and place our patients under favourable hygienic conditions.

Distemper may be roughly divided into three varieties, namely, those affecting the breathing apparatus, the digestive, and the nervous. The first is the most common, and begins with dulness, loss of appetite, tears, and a discharge from the nostrils, at first watery, but becoming thicker as the disease advances. If the eyelids are examined in the way familiar to horse-owners, their lining membranes will be found to be red in appearance and highly sensitive to the touch. The discharge, like that from the nose, becomes thickened, and the lids presently glued together, while serious damage to the eyeball—for instance, ulceration of the cornea—often follows. A soft cough is usually developed a few days after the com-

mencement of the attack ; so soft, indeed, that to the novice it appears to be nothing more than a habit of puffing out the cheeks. It indicates a much more serious condition than a harsh trumpeting cough, loud and angry, such as is usually associated with sore throat. In fact, the lungs are undergoing changes and the air-spaces getting filled with matter which will end in suffocation unless arrested.

Treatment consists in good nursing ; plenty of fresh air, even if cold ; and nutritious and easily digested food, such as beef-tea, boiled milk, eggs, custards, light puddings, etc. The time-honoured custom of giving a dose of castor-oil (a dessert-spoonful to two table-spoonfuls) can be defended on the ground of removing deleterious matter from the digestive canal which would otherwise remain and ferment in the torpid condition of the bowels common to the early stage of the disease. A smart blister to the sides of the chest may have the effect of diverting inflammation from the lungs to the surface. About this there is some difference of opinion among veterinary surgeons, but the majority of experienced practitioners are greatly in its favour. Turpentine is as good as anything, or mustard may be employed in the form used at table, but it should not be mixed with boiling water.

The Compound Camphor Liniment of the Pharmacopœia is very rapid in its effects, and if procurable is to be preferred. Tonic medicines may be given with advantage, and should be selected with care as to the condition of the bowels. One or two grains of pepsin in a teaspoonful of old port twice a day

may be tried, and if diarrhœa is a symptom, sulphate of iron in one to three grain doses dissolved in water may be given. Chlorate of potash in five to ten grain doses daily is also recommended, as it is said to supply oxygen to the blood, the want of which often causes an eruption to break out upon the thighs and nude parts. This symptom is frequently a preliminary one to recovery, and appears to be an effort of nature to throw off effete matter. These spots pass through the stages of smallpox, being first red excrescences, then filling with watery fluid (serum), which becomes changed into thick matter (pus), after which they break and leave ragged sores, which should be treated with zinc ointment or calamine, lanolin, vaseline, or glycerine lotion (1 part of glycerine to 10 of water). The vesicles should not be broken, but allowed to ripen in the manner described. With improving health rapid repair takes place, and no trace is left upon the skin.

The second or intestinal form of distemper is ushered in with like symptoms to those already described, save that the discharges from eyes and nose are less copious, and instead of a cough there is diarrhœa of an acute character. This may go on to bloody stools, emaciation, blood poisoning, and death.

Treatment.—Good sanitary conditions must be insisted on, and every evacuation effectually removed and the place sanitated with Jeyes' Fluid or eucalyptus. Chloride of lime is effectual for cleansing kennels, but is not to be recommended where a patient is lying down, as the gas given off is extremely irritating; nor should carbolic acid be used if the odour is

found to excite nausea, as evidenced by dribbling from the mouth. The decoction of Bael fruit in doses of one or two teaspoonfuls is an excellent astringent, and its value for this disease increased if ten grains of bismuth are added to each dose, giving it three or four times in the twenty-four hours. Catechu and opium are good substitutes for the above, and can be almost everywhere obtained in Indian bazaars. Boiled eggs and baked custards may be given freely if the patient can be induced to eat anything.

The nervous form of distemper, though less frequent and perhaps less fatal, is quite as much to be dreaded, as it too often leaves the dog useless when its first virulence is spent.

It generally begins with a fit, and is followed up by others, each at a shorter interval than the last. Dogs seldom die in these fits, but become mentally and physically exhausted, and succumb from some complication, such as diarrhoea. If the fits pass off, and a partial recovery is made, St. Vitus's dance (*chorea*) remains.

Treatment.—If an aperient dose is advisable in the other forms of distemper, it is doubly necessary in the nervous. The experience of ages has shown that fits, both in man and beast, are more probable in conjunction with constipation than when the bowels act freely. Bromide of potassium or ammonium, in doses of 10 to 30 grains, twice daily, or half the quantity of chloral are found to control fits, and often prevent those structural changes in the spinal cord which lead to chorea.

Distemper, I may remark, is a specific and highly infectious fever peculiar to the dog. It, therefore, cannot occur spontaneously. Dog shows are a potent means for its dissemination. Like in many other specific fevers, one attack, as a rule, gives immunity from subsequent attacks; although, on rare occasions, a dog may suffer a second or even a third time. Of all diseases, it is the one which is the most hurtful to the health and life of dogs. The effects of distemper are much more serious in highly-bred dogs than in common breeds and mongrels. Its frequent occurrence has given rise to the erroneous idea that it is a necessary concomitant to dog life. It may be looked upon, generally, as a disease of puppyhood; although dogs at any age may contract it. From the foregoing reasons, distemper holds somewhat the same relation to the dog, as measles and strangles do, respectively, to man and the horse. The fact that a dog has successfully passed through an attack of distemper, certainly adds to its value; but only on account of the consequent immunity. Its after-effects, so far from being otherwise advantageous, are often most injurious to the animal's health.

Chorea.—This affection is similar to St. Vitus's dance in man, and is seldom amenable to treatment. Everything has been tried, but with so little success that unless the case is a very mild one, it is better to put an end to a useless life.

Rabies, commonly called hydrophobia, is caused by the entrance, through a wound or by contact with a mucous membrane, of a special disease germ into the system. These

microbes abound in the saliva of a rabid dog. All the larger animals are liable to rabies. It is an incurable disease; although its occurrence in an infected man or lower animal may be prevented by the protective method of inoculation introduced by M. Pasteur. The bite of a rabid animal is not necessarily fatal, owing to individual immunity. Bites about the face are more likely to cause the disease than bites on other parts of the body. The bite of a rabid wolf is supposed to be more liable to give rise to the disease than the bite of a rabid dog. It has been calculated that about 15 per cent. of persons who have been bitten by rabid dogs and who have not been protected *à la Pasteur*, become mad. The percentage among animals which are not clothed, is of course much higher; for if the bite be inflicted through the clothing, the material will naturally more or less wipe away the virulent saliva from the fangs. The chances of immunity are increased, probably, a hundred-fold by Pasteur's method, which, to be successful, must be employed before any of the symptoms of the disease have set in.

The period of latency is extremely variable. Its ordinary duration is not more than a month.

The usual *symptoms* are: change in the animal's ordinary demeanour; often increased affection, and inclination to lick the hands and face of persons he knows; uneasiness and restlessness; depression of spirits; and irritability. The dog becomes solitary in his habits, and seeks out dark corners. Perverted appetite. Wild, unsteady look in the eyes as if the brain were

affected. Delusions, such as snapping at imaginary flies, looking, barking, and starting at unseen objects. Excitement at the sight of glistening or bright objects, such as water. Beyond this he has no dread of water (hydrophobia), which he will try to drink, even when he is unable to do so on account of the spasms in or paralysis of the muscles of his throat. When the disease has fully set in, the dog has paroxysms of fury without any cause for them. These irresponsible bursts of rage are intermittent, and, in the early stages, after one of them, he will calm down and assume his normal state for a time, until he breaks out again. As the disease progresses these lucid intervals become shorter in duration and less defined. Desire to wander. Goes aimlessly on at a short trot. Is liable to suddenly attack any animal or even inanimate object he may meet with ; but does not go out of his way to do so. There is spasm of the throat, which prevents the dog swallowing his saliva, and getting rid of the phlegm in it. To relieve this condition, he may rub the sides of his mouth with his paws, which proceeding on his part may give rise to the idea that he has a bone in his gullet. I need hardly point out the extreme danger there might be in mistaking this symptom. Inclination to bite and tear at the seat of inoculation. The bark is peculiarly modified. It is harsher than usual, and is accompanied by a distressed howl, which, once heard, can never be forgotten. At these times there is a copious flow of saliva. There is marked insensibility to pain. Up to the last, during his lucid moments, the dog

will recognise and obey his master's voice. The attack terminates by exhaustion, paralysis of the hindquarters, and death.

In *Dumb Madness*, there is paralysis of the muscles of the jaws which prevents the dog from biting. There is a distressed, hopeless look in the face. The lower jaw drops. The tongue hangs out and saliva falls from it. Paralysis spreads over the other muscles and the animal dies.

I need hardly point out that every dog-owner should make himself well acquainted with the symptoms of rabies, so that he may be able to recognise this fatal disease in its first stages, before the dog loses self-possession, and to secure the animal so that it may not do any harm. In taking precautionary measures, one should remember that the course of the disease does not extend beyond a week. As a rule, the patient dies on the fourth or fifth day.

Once the malady has set in, *treatment* is of no avail. Before the symptoms become apparent, protective inoculation (which can be obtained properly only at a Pasteurian institute) is an efficient preventive in, say, ninety-nine cases out of a hundred. The expense and trouble attending a course of this protective treatment, would, in most instances, preclude its employment in the case of a dog, without saying anything of the danger of keeping such an animal. It should, of course, be used in every case of a bitten human being. The uncertain length of the duration of the period of latency would, with suspected dogs, be a bar to applying any system of quarantine to them. The

rule should be absolute that every dog which has been bitten by a rabid animal, should be promptly killed. Although the efficiency of methods for destroying the virus at the seat of injury by burning out the part with the hot iron, mineral acids (such as nitric, sulphuric, and hydrochloric acid) may be questioned and can be valid only for a very short time after a bite, they should be promptly put into requisition, on the possible chance of their acting in the desired manner.

Dropsy of the Belly is usually caused by disease of the liver. The belly becomes pendulous; the animal loses condition; and if the belly be shaken, the presence of water will become apparent. We may draw off the fluid by means of a suitable trochar and canula, making the puncture at the centre line (*linea alba*) of the under-part of the belly, near the navel. To cause absorption, we may give the patient 5 grains of iodide of potassium three times a day for a week or so. It should be discontinued for the time, if it causes running at the eyes. The cause or causes which have given rise to the dropsy, should be specially treated.

Rickets.—The larger breeds of dogs are liable to bow and bandy legs from the defect known as rickets.

Either the necessary mineral matters for building up bones is deficient in the food, or the pup has not the capacity for assimilation, so it is a good plan to begin early with Parish's Syrup or other bone-forming artificial foods in a condition for easy appropriation.

Legs that have begun to bend may sometimes be put right

by wearing a leather boot just stiff enough to give support. It should be unlaced at least twice a day, and the leg well rubbed to prevent swelling and soreness of the skin. Moderate daily exercise should be given, and play encouraged in the form of tug-of-war with, for instance, an old hassock, as the heavy breeds of pups are too apt to sit about in a listless manner unless played with.

Lime water with the food may be safely given for a considerable period, and is assimilated easily with cow's milk.

Worms (*see* page 127) appear at times to be a cause of this disease. They should be kept down, and everything else that tends to check growth and development.

Big dogs are so liable to rickets in hot climates that, in their case, it is hardly worth while to breed except from imported parents. Weaning pups too early is a cause of rickets.

Rheumatism.—This term is as a cloak of charity to the horse doctor, and covers a multitude of lamenesses which he cannot correctly diagnose, but it is a very real affliction to the dog. It may be said that carnivorous animals generally are more subject to it than the herbivorous. Under the name of kennel lameness, masters of hounds are usually only too familiar with it. The causes are much the same in all climates; the same conditions which produce it in the master bring it about in his friend the dog. My lady's pet is not exempt, though his luxurious environment may make him less prone than sporting dogs. Thoughtless owners of dogs have been known to punish them

for yelping out when lifted by the fore-leg, not recognising the fact that the muscles which attach the front legs to the body are those most subject to rheumatism, and that it is pain and not sulkiness that makes the unlucky dog call out when lifted. It may be general, and then the dog moves stiffly and, as it were, in one piece, and cannot find the right place to sit down or any attitude in which he can banish pain. Constipation usually accompanies it, and high-coloured urine passed in small quantities at a time. It is usually amenable to treatment, and a recovery in a few days may be expected, save in the rare instances when it takes the form of rheumatic fever.

Stimulating liniments, as oil of cajeput, turpentine, eucalyptus, or white oils to the parts most affected, and salicylate of soda in 5 to 20 grain doses internally have been found to have a marked effect, while in old dogs in which gouty complications arise a better remedy will be soda or potash bicarbonate with colchicum wine.

The directions elsewhere given with regard to kennels and bedding are of special importance in the case of a dog which has suffered from rheumatism.

Paralysis is not at all uncommon in dogs, and may be the result of distemper affecting the spinal cord, exhaustion following upon severe work, or frequent immersion in water for long periods. Another, and perhaps more frequent, cause is a very hard mass of dung in the rectum which presses upon the great nerve trunks which supply the hind limbs, and interrupts thereby the nerve current. The fæces upon examination will

be found to consist almost entirely of the mineral matter of bones which have been crushed and the other constituents digested.

Inability to co-ordinate the movements of the hind limbs, or even total incapacity to stand upon them, is not sufficient justification for passing a death sentence on a dog. There is an innate capacity for repair in the constitution of the dog, and he will make oftentimes a complete recovery where, if the patient had been a horse, it would have been folly to attempt treatment.

Paralysis, as a result of distemper, is the least hopeful form; for it may be caused by gradual degeneration of the spinal cord. If exhaustion from either of the causes named be suspected, treatment should be begun by an enema of soap and water, followed up by small and frequent doses of Epsom salts, with the object of softening the whole of the alimentary canal, and diverting fluid to its course.

A stimulating embrocation to the spine, more especially over the lumbar region, and one-sixtieth part of a grain of strychnine daily will often reward the patience of one who will persist in its administration for some time.

CHAPTER X.

POISONING.

GENERAL REMARKS—ACIDS, MINERAL—AMMONIA—ARSENIC—BEE STINGS
—BELLADONNA—CANTHARIDES—CARBOLIC ACID—LUNAR CAUSTIC—
CHLORAL—CHLOROFORM—CORROSIVE SUBLIMATE—MERCURY—MORPHIA
—OPIUM—OXALIC ACID—PHOSPHORUS—SNAKE-BITE—STRYCHNINE.

General Remarks.—On account of their foraging propensities, dogs are most liable of all animals to suffer from poisons. I need hardly say that the great symptom of poisoning is that the dog is suddenly and generally violently “taken bad” from no other appreciable cause. Our suspicions may be strengthened by the fact that the animal has ranged over ground, upon which poison, we may have reason to believe, has been laid down. In these cases, we should be prompt above all things. Full advantage should be taken of the readiness with which dogs may be induced to vomit. The quickest acting and best “all round” emetic is 20 grains of sulphate of zinc dissolved in, say, half a tumblerful of water. If sulphate of zinc be not procurable, give 3 grains of tartar emetic in water; a dessert-spoonful of mustard mixed up in a tumblerful of water (lukewarm if possible); or, if nothing else be at hand, a tumblerful of lukewarm water, with or without a tablespoonful of common salt. Ipecacuanha in a dose of 20 grains is an efficient emetic; but its action is too slow for it to

be of much use in cases of poisoning. The objection to the employment of tartar emetic in this connection is that it has a depressing effect on the system. If the patient cannot take the emetic by the mouth, inject hypodermically $\frac{1}{16}$ -th grain of the hydrochlorate of apomorphine. If after we have cleared the stomach, there be serious pain, and we do not know what poison has been used, we might give, in large quantities, soothing agents, such as milk, chalk (or the whiting scraped off a wall) and water, the white of eggs, butter, or any sweet oil; and 30 drops of chlorodyne or laudanum.

As an admirable and easily given emetic, Vet. Captain Nunn recommends the hypodermic injection of from $\frac{1}{12}$ -th to $\frac{1}{8}$ -th of a grain of hydrochlorate of apomorphite dissolved in water.

The following is a list of the more usual poisons.

Acids, Mineral.—The acids usually coming under this heading are sulphuric, nitric, and hydrochloric acid. There will be intense pain and depression; and the mucous membrane of the mouth will be more or less burned. Violent thirst with great difficulty of swallowing. If the poison has been hydrochloric or nitric acid, its characteristic smell will be observed from the breath.

Treatment.—Give a solution of, say, a dessert-spoonful of baking soda (washing soda, which is the carbonate, will do; but it is not so effective) in a tumblerful of water; if that cannot be had, we may use fluid magnesia (about a quarter of of a pint); chalk and water; whitewash scraped off walls and

mixed with water; a couple of ounces of ordinary soap dissolved in water; and sweet oil; melted butter, milk, or gruel. To allay the pain, we may give 40 drops of chlorodyne or laudanum.

Ammonia.—Great pain; inflammation of the mucous membrane of the mouth; extreme difficulty in breathing. The smell of ammonia may be detected from the breath. *Treatment.*—Give repeated ounce doses of vinegar in water; or, if not obtainable, use the juice of lemons, limes, or oranges in proportionate quantities.

Arsenic is a common form of dog-poisoning. The *symptoms* of acute arsenical poisoning are: intense pain, heat, and tenderness of the abdomen; distressed and painful breathing; vomiting and diarrhoea, the discharges of which are often mixed with blood. *Treatment.*—Give an emetic and large quantities of warm water mixed with oil or butter. Give repeated doses, in warm water, of dialysed iron (say 2 oz.); 1 oz. of the freshly-prepared sesquioxide of iron; or 4 oz. of magnesia. If these cannot be obtained give large quantities of sweet oil or butter. Give wine or spirits and water to keep up the strength.

Dogs not infrequently suffer from chronic poisoning by arsenic given medicinally. The chief *symptoms* are: puffiness of the eyelids; running at and inflammation of the eyes; breathlessness if put to fast work, redness of the mucous membranes, thirst, pains in the limbs, mangy condition of the skin, vomiting, diarrhoea, debility and loss of condition. For *treatment*, stop the arsenic and attend to the general health.

Bee-Stings.—Remove the sting. Apply ammonia ; a strong solution of washing soda, chloroform, carbolic acid, or a sliced onion. Give wine or spirits and water to keep up the strength.

Belladonna.—*Symptoms.*—Dilatation of the pupils. Insensibility of the eyes to light ; dryness of the mouth and thirst ; excitement and nervousness ; unsteady gait ; finally, sleep and recovery, or death. *Treatment.*—Give strong coffee or tea in full amounts ; or spirits and water.

Cantharides may poison by being taken by the mouth, or by being absorbed from a surface blistered by these flies. *Symptoms :* Inflammation of the stomach, intestines, and urinary organs. Continued straining to urinate, with but little passed. Vomiting and purging ; often bloody. Flow of saliva from the mouth. *Treatment.*—Give large quantities of white of egg (raw) and water, gruel, barley water, or gum and water. No oil should be administered ; as it will dissolve the cantharides and cause it to become distributed through the system. To allay the pain, give 40 drops of chlorodyne or laudanum.

Carbolic Acid.—*Symptoms :* Intoxication ; mucous membrane of the mouth white and hardened ; pupils contracted ; urine very dark ; shallow and difficult breathing, pulse small, frequent, and in bad cases, irregular ; great weakness and insensibility. *Treatment.*—Give, and repeat if necessary, an ounce of Epsom or Glauber salts dissolved in half a tumblerful of water. Or, if these salts cannot be obtained, give the white

of four or five eggs (raw) in water. Oil should not be given, as it tends to hasten the absorption of the acid. Give a glass of spirits with water from time to time, to keep up the strength.

Lunar Caustic may be swallowed by accident. *Symptoms* are: violent pain, and the fact of white portions of the vomit turning black on exposure to the air. Give repeated drenches of a teaspoonful of common or table salt dissolved in water.

Chloral.—*Symptoms*: Unconscious sleep; slowing down of the heart and lungs; great fall in internal temperature. Death arises from paralysis of the heart. *Treatment*: Give strong tea or coffee; hand-rub the body vigorously; rouse the patient by slapping and speaking to him.

Chloroform.—The dog, as a rule, bears the administration of chloroform badly. Death from an overdose of this drug, arises from the stoppage of breathing. I may mention that in dog practice, ether should always be substituted for chloroform in order to produce insensibility. "*Treatment*: Draw the tongue out. Give the animal plenty of air. Dash cold water in his face. Keep his head low. Try to set up artificial respiration by turning him alternately on his back and side, at intervals of three or four seconds. Give him (so as to act agreeably to the advice, in human practice, of Dr. Murrell) two or three sharp cuts with a whip or cane across the chest. in order to restore the action of the heart." ("*Veterinary Notes for Horse Owners.*")

Corrosive Sublimate.—*Symptoms*: Great pain; vomiting and purging with bloody stools; difficult breathing. *Treatment*: Try sulphate of zinc as an emetic (*see* page 166). Give an unlimited amount of raw white of egg. If this cannot be procured, give gruel or arrowroot. Keep up the strength with spirits and water.

Mercury.—See "Corrosive Sublimate."

Morphia.—See "Opium."

Opium.—The smell of opium may be perceived from the breath. *Symptoms*: Stupor; slow breathing; slow pulse; unconsciousness; and convulsions. *Treatment*: Give sulphate of zinc as an emetic (*see* page 133). Give a large quantity of strong tea or coffee. If the patient cannot take them by the mouth, administer by an enema. Inject hypodermically $\frac{1}{10}$ grain of sulphate of atropine dissolved in water and repeat if necessary. Try and set up artificial breathing.

Oxalic Acid may be given by mistake for Epsom salts. *Treatment*: Give an emetic (*see* page 166). Give lime-water, chalk and water, or a solution in water of whitewash scraped off a wall. To relieve the pain give 40 drops of chlorodyne or laudanum.

Phosphorus may be taken in the form of rat poison. *Treatment*: Give 5 grains of sulphate of copper every quarter of an hour. If this be not at hand, give an emetic (*see* page 166), and repeated doses of magnesia in water.

Snake Bite.—*Symptoms*: Shock; swelling of the part; faintness; paralysis; unconsciousness; and convulsions.

Treatment: If on a limb, place a tight ligature (cord or handkerchief) on it between the wound and heart. "The ligature should be removed for a second or two at a time, and then quickly re-applied so as to admit only a small quantity of the poison into the circulation." (Dr. Murrell). Open out the wound with the knife, and freely cauterise with a red-hot iron or with some strong acid. Give large quantities of spirits and water. We might try the effect of $\frac{1}{2}$ grain of the hydrochlorate of strychnine injected hypodermically.

Strychnine.—*Symptoms*: Violent and continued spasms; which cause death by stopping the breathing. *Treatment*: Clear out the stomach with an emetic (*see* page 166). Give extremely large doses of spirits and water; or of chloral. To enable the medicine to be given, relieve the spasms by making the animal inhale chloroform.

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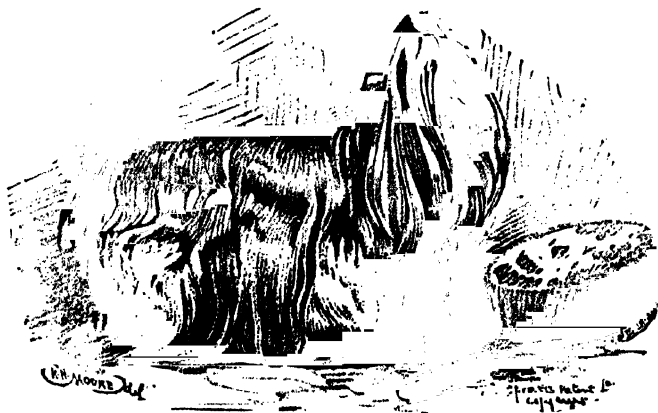
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